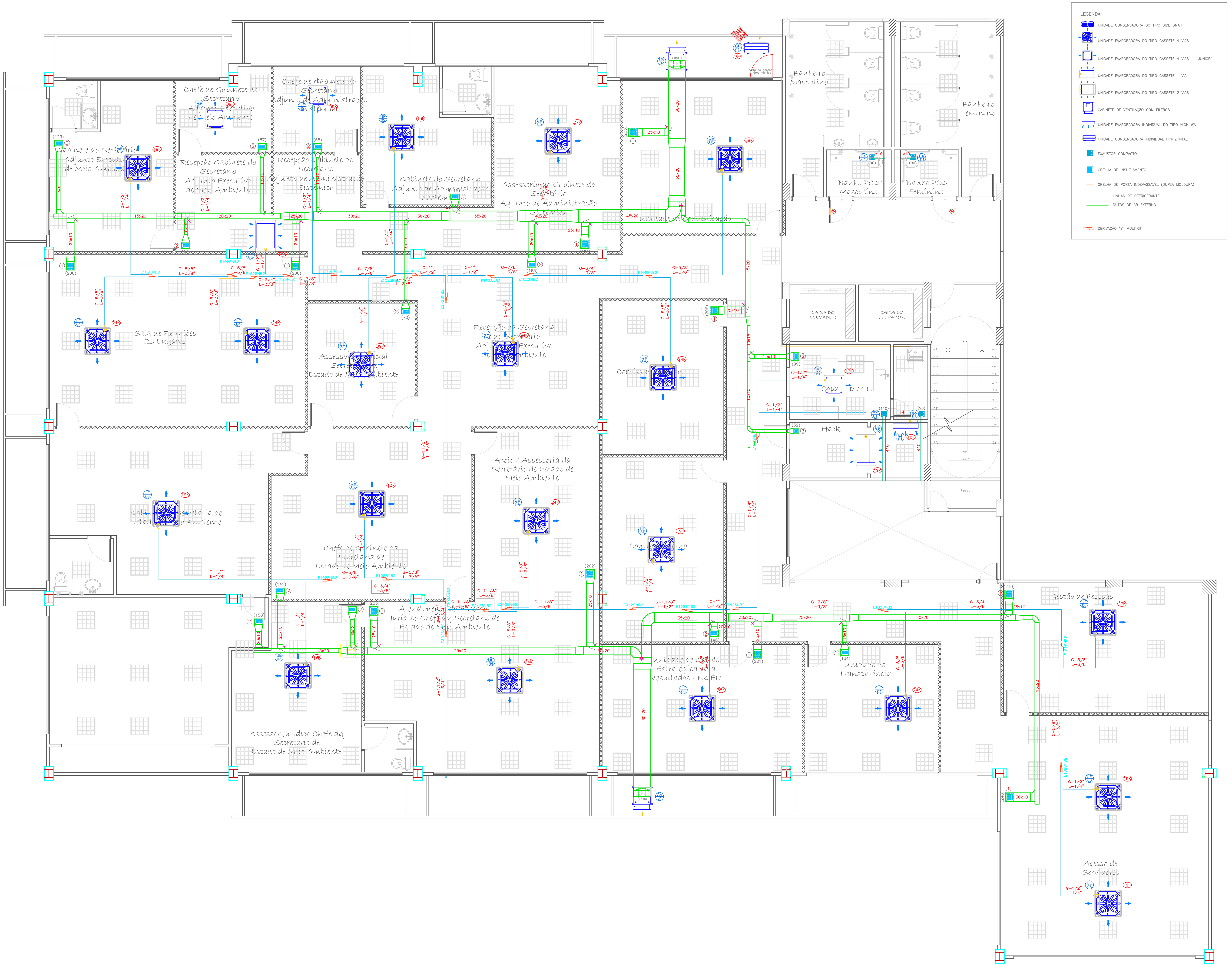


PLANTA BAIXA - 1° PAVIMENTO

escala 1/50

EQUIPAMENTOS

SISTEMA VRF - SET FREE - SIDE SMART

UNIDADE EXTERNA (CONDENSADORA)

PAVTO.	TAG	MODELO	COMBINAÇÃO	CAPAC NOM INDIVIDUAL (Kcal/h)	CAPAC NOM INDIVIDUAL (Btu/h)	CAPAC NOM INDIVIDUAL (Kwo)	CAPAC NOM TOTAL (Kcal/h)	CAPAC NOM TOTAL (Btu/h)	CAPAC NOM TOTAL (Kwo)	CONSUMO (Kwi)	EER (KWo/KWi)	PESO (Kg)	QTDE
PRIMEIRO	UC 03 / 52HP	RAS520HNCERWE	RAS160HNCERW	38.385	153.540	45,00	123.685	494.740	145,00	40,16	3,61	693	01
			RAS180HNCERW	42.650	170.600	50,00							
			RAS180HNCERW	42.650	170.600	50,00							
FABRICANTE			HITACHI										
ALIMENTAÇÃO ELÉTRICA			AC 3ø / 220V / 60Hz										

UNIDADES INTERNAS (EVAPORADORAS)

PAVTO.	TAG		MODELO	TIPO	CAPAC. NOM. RESFRIAMENTO (Kw)	(Kcal/h)	(Btu/h)	POT. (W)	(m3/h)	(Kg)	QTDE
PRIMEIRO	UE 01	09K	RCI1,0FSN3B4	CASSETE 4 VIAS	2,80	2.388	9.554	57	900...540	26,50	01
	UE 02	13K	RCI1,5FSN3B4	CASSETE 4 VIAS	4,00	3.412	13.648	57	1260...660	27,50	02
	UE 03	19K	RCI2,0FSN3B4	CASSETE 4 VIAS	5,60	4.776	19.107	57	1320...660	27,50	06
	UE 04	24K	RCI2,5FSN3B4	CASSETE 4 VIAS	7,10	6.056	24.252	57	1620...840	28,50	07
	UE 05	27K	RCI3,0FSN3B4	CASSETE 4 VIAS	8,00	6.824	27.296	57	1620...840	32,50	02
	UE 06	38K	RCI4,0FSN3B4	CASSETE 4 VIAS	11,20	9.554	38.214	127	2220...1200	32,50	02
	UE 08	09K	RCD1,0FSR	CASSETE 2 VIAS	2,80	2.388	9.554	57	660...420	30,50	01
	UE 10	19K	RCD2,0FSR	CASSETE 2 VIAS	5,60	4.776	19.107	57	990...630	32,50	01
	UE 12	09K	RCIM1,0FSRE	CASSETE JUNIOR	2,80	2.388	9.554	57	720...360	19,00	02
	UE 13	13K	RCIM1,5FSRE	CASSETE JUNIOR	4,00	3.412	13.648	57	780...420	19,00	01
FABRICANTE	HITACHI										
ALIMENTAÇÃO ELÉTRICA	AC 1ø / 220V / 60Hz										

SISTEMA INDIVIDUAL

UNIDADES EVAPORADORAS/CONDENSADORAS

TAG	TIPO (UE/UC)	MODELO CONJUNTO	CAPACIDADE EFETIVA (Btu/h/Watt/TR)	PESO (Kg) (UE/UC)	CONSUMO TOTAL (W)	DISJUNTOR (A)	QTDE
EI/CI 01	HI-WALL/ AXIAL-HORIZONTAL	YHCE18C3/1	18.000/5.275/1,50	10,5/32,0	1.628	16	02
ALIMENTAÇÃO ELÉTRICA	AC 1ø/220V/60Hz						
FABRICANTE	YORK-HITACHI						

SISTEMA DE VENTILAÇÃO

TAG		CV 02	CV 01
MODELO		GVS 9/9 - CLASSE L	GVS 9/9 - CLASSE L
QUANTIDADE		01	01
TIPO		CAIXAS DE VENTILAÇÃO C/ GAVETA P/ FILTRO - SIROCCO/DUPLA ASPIRAÇÃO	
POSIÇÃO/FILTRAGEM		A90/G4	
VAZÃO DE AR	m3/h	1.809	1.748
PRESSÃO ESTÁTICA EXTERNA	mmca	20	20
POTÊNCIA DO MOTOR/ROTAÇÃO	CV/rpm	0,22/1.014	0,21/1.015
VELOCIDADE DE DESCARGA	m/s	6,31	6,10
FABRICANTE		OTAM (SOLER & PALAU)	
ALIMENTAÇÃO ELÉTRICA		220V/60Hz/trifásico	

SISTEMA DE EXAUSTÃO

AMBIENTE		SANITÁRIOS PCD/ DML/ COPA
TAG		EX 01
MODELO		SILENT-100
QUANTIDADE		04
TIPO		AXIAL
VAZÃO DE AR	m3/h	90
PRESSÃO ESTÁTICA EXTERNA	mmca	4
POTÊNCIA DO MOTOR		20 W
FABRICANTE		OTAM (SOLER & PALAU)
ALIMENTAÇÃO ELÉTRICA		127V/60Hz/monofásico

MATERIAIS

TAG	DESCRIÇÃO	QTDE.
01	Grelha de dupla deflexão c/ registro, mod. AT-DG 225x225 - ref: Trox	10
02	Grelha de dupla deflexão c/ registro, mod. AT-DG 225x125 - ref: Trox	13
03	Grelha de dupla deflexão c/ registro, mod. AT-DG 125x125 - ref: Trox	01
04	Grelha indevassável c/ dupla moldura mod. AGST 225x125 - ref: Trox	03

TOTAL EQUIPAMENTOS VRF

TAG	EQUIPAMENTO	MODELO	TIPO	btu/h	HP	1°PAV	2°PAV	3°PAV	4°PAV	5°PAV	6°PAV	TOTAIS
UC 01	CONDENSADORA	RAS140HNCERW	SIDE SMART	136.480	14.0	-	-	1	-	-	-	1
UC 02	CONDENSADORA	RAS360HNCERWE	SIDE SMART	341.200	36.0	-	-	-	-	2	2	4
UC 03	CONDENSADORA	RAS520HNCERWE	SIDE SMART	494.740	52.0	1	-	-	-	-	-	1
UC 04	CONDENSADORA	RAS540HNCERWE	SIDE SMART	511.800	54.0	-	1	1	-	-	-	2
UC 05	CONDENSADORA	RAS640HNCERWE	SIDE SMART	607.336	64.0	-	-	-	1	-	-	1
TOTAL COND						1	1	2	1	2	2	9
UE 01	EVAPORADORA	RCI1,0FSN3B4	CASSETE-4V	9.554	1.0	1	-	1	-	-	-	2
UE 02	EVAPORADORA	RCI1,5FSN3B4	CASSETE-4V	13.648	1.5	2	-	-	1	-	-	3
UE 03	EVAPORADORA	RCI2,0FSN3B4	CASSETE-4V	19.107	2.0	6	18	5	1	2	-	32
UE 04	EVAPORADORA	RCI2,5FSN3B4	CASSETE-4V	24.225	2.5	7	2	-	-	5		14
UE 05	EVAPORADORA	RCI3,0FSN3B4	CASSETE-4V	27.296	3.0	2	-	11	19	4	6	42
UE 06	EVAPORADORA	RCI4,0FSN3B4	CASSETE-4V	38.214	4.0	2	2	2	-	10	13	29
UE 07	EVAPORADORA	RCIS1,0FSKDNQ	CASSETE-1V	9.554	1.0	-	-	-	1	-	-	1
UE 08	EVAPORADORA	RCD1,0FSR	CASSETE-2V	9.554	1.0	1	-	-	-	-	-	1
UE 09	EVAPORADORA	RCD1,5FSR	CASSETE-2V	13.648	1.5	-	-	-	-	1	-	1
UE 10	EVAPORADORA	RCD2,0FSR	CASSETE-2V	19.107	2.0	1	1	-	1	1	1	5
UE 11	EVAPORADORA	RCD2,5FSR	CASSETE-2V	24.225	2.5	-	1	-	-	-	-	1
UE 12	EVAPORADORA	RCIM1,0FSRE	JUNIOR	9.554	1.0	2	1	3	2	-	-	8
UE 13	EVAPORADORA	RCIM1,5FSRE	JUNIOR	13.648	1.5	1	1	1	2	1	1	7
UE 14	EVAPORADORA	RPI5,0FSNQH	BUILT IN	48.768	5.0	-	-	3	-	-	-	3
TOTAL EVAP						25	26	26	27	24	21	149

OBSERVAÇÕES:

a) TODAS AS MEDIDAS DEVERÃO SER CONFIRMADAS NA OBRA.

b) EM CASO DE DÚVIDAS, CONSULTE O AUTOR DO PROJETO.

c) AS COTAS PREVALECEM SOBRE A ESCALA DO DESENHO.

ALTERAÇÃO	DATA	REVISÃO	ASSUNTO
AC	11/12/2023	R02	TRANSPOSIÇÃO DAS UNIDADES CONDENSADORAS PARA A COBERTURA
AC	05/06/2022	R01	ADEQUAÇÃO DE PROJETO
AC	27/04/2022	R00	PROJETO EXECUTIVO

KOSMOS

PROJETO EXECUTIVO
AR CONDICIONADO

Proprietário: SECRETARIA DE ESTADO DE MEIO AMBIENTE - SEMA/MT

CNPJ:

Local: RUA C, ESQUINA COM A RUA F - CENTRO POLÍTICO E ADMINISTRATIVO
CUIABÁ - MT

Local:

Autor do Projeto: EDUARDO DOMINGOS SIMÕES
ENGENHEIRO MECÂNICO
CREA 2.124/D-MT
CONFEA 1207421669

Co-autores do Projeto:

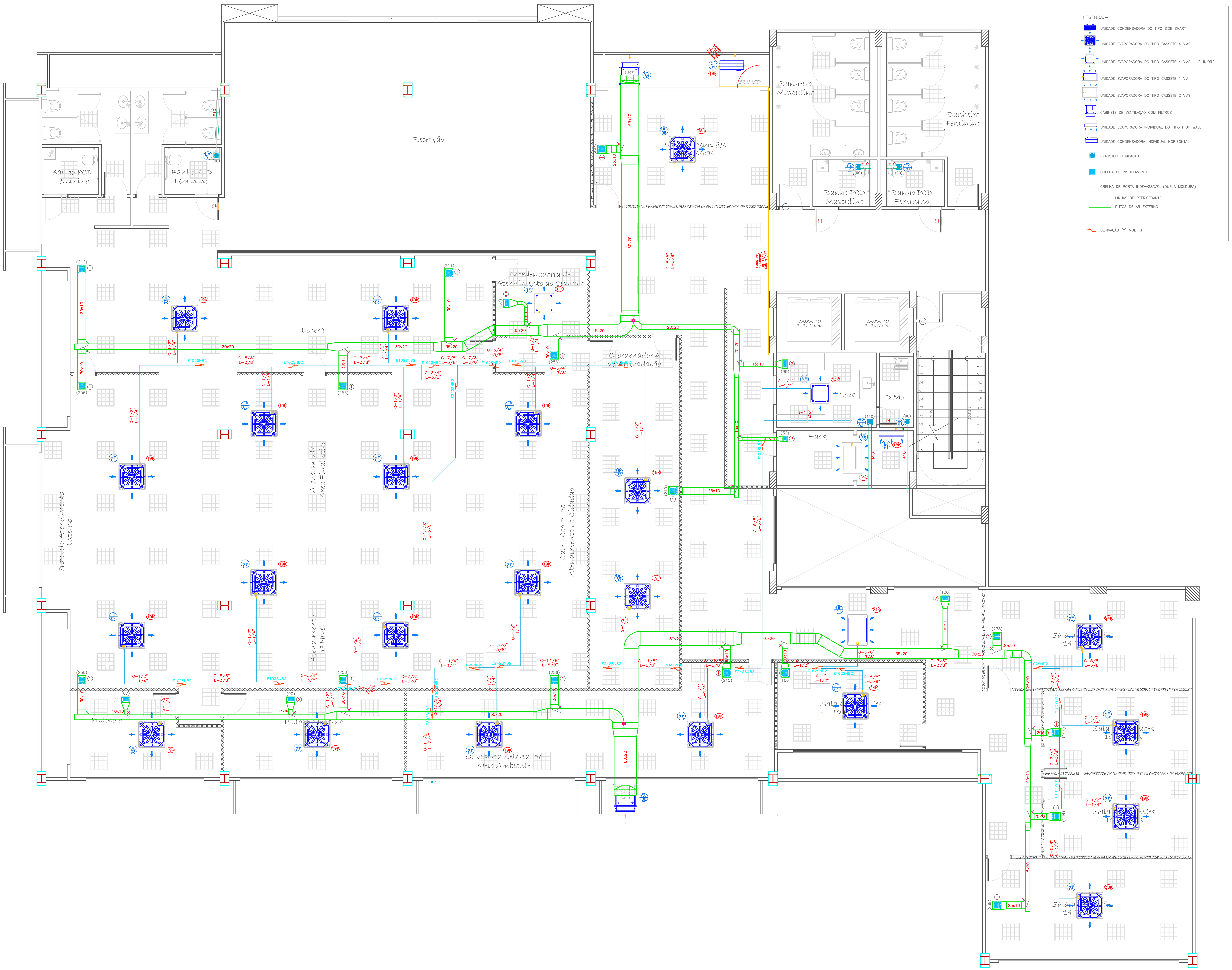
Responsável Técnico:

Assunto: AR CONDICIONADO - EXPANSÃO DIRETA-VRF
VENTILAÇÃO E EXAUSTÃO MECÂNICA
PLANTA BAIXA - 1° PAVIMENTO / GUARITA

Escala: INDICADA

Data: 27/04/2022

Folha: 01 / 11



PLANTA BAIXA - 2° PAVIMENTO

escala 1/50

EQUIPAMENTOS

SISTEMA VRF - SET FREE - SIDE SMART

UNIDADE EXTERNA (CONDENSADORA)

PAVTO.	TAG	MODELO	COMBINAÇÃO	CAPAC NOM INDIVIDUAL (Kcal/h)	(Btu/h)	(Kwo)	CAPAC NOM TOTAL (Kcal/h)	(Btu/h)	(Kwo)	CONSUMO (Kwi)	EER (KWo/KWi)	PESO (Kg)	QTDE
SEGUNDO	UC 04 / 54HP	RAS540HNCERWE	RAS180HNCERW	42.650	170.600	50,00	127.950	511.800	150,00	42,42	3,54	693	01
			RAS180HNCERW	42.650	170.600	50,00							
			RAS180HNCERW	42.650	170.600	50,00							
FABRICANTE			HITACHI										
ALIMENTAÇÃO ELÉTRICA			AC 3ø / 220V / 60Hz										

UNIDADES INTERNAS (EVAPORADORAS)

PAVTO.	TAG	MODELO	TIPO	CAPAC. NOM. RESFRIAMENTO (Kw)	(Kcal/h)	(Btu/h)	POT. (W)	VAZÃO (m3/h)	PESO (Kg)	QTDE
SEGUNDO	UE 03 / 19K	RCI2,0FSN3B4	CASSETE 4 VIAS	5,60	4.776	19.107	57	1320...660	27,50	18
	UE 04 / 24K	RCI2,5FSN3B4	CASSETE 4 VIAS	7,10	6.056	24.252	57	1620...840	28,50	02
	UE 06 / 38K	RCI4,0FSN3B4	CASSETE 4 VIAS	11,20	9.554	38.214	127	2220...1200	32,50	02
	UE 10 / 19K	RCD2,0FSR	CASSETE 2 VIAS	5,60	4.776	19.107	57	990...630	32,50	01
	UE 11 / 24K	RCD2,5FSR	CASSETE 2 VIAS	7,10	6.056	24.252	57	1110...750	32,50	01
	UE 12 / 09K	RCIM1,0FSRE	CASSETE JUNIOR	2,80	2.388	9.554	57	720...360	19,00	01
	UE 13 / 13K	RCIM1,5FSRE	CASSETE JUNIOR	4,00	3.412	13.648	57	780...420	19,00	01
FABRICANTE		HITACHI								
ALIMENTAÇÃO ELÉTRICA		AC 1ø / 220V / 60Hz								

SISTEMA INDIVIDUAL

UNIDADES EVAPORADORAS/CONDENSADORAS

TAG	TIPO (UE/UC)	MODELO CONJUNTO	CAPACIDADE EFETIVA (Btu/h/Watt/TR)	PESO (Kg) (UE/UC)	CONSUMO TOTAL (W)	DISJUNTOR (A)	QTDE
EI/CI 01	HI—WALL/ AXIAL—HORIZONTAL	YHCE18C3/1	18.000/5.275/1,50	10,5/32,0	1.628	16	01
ALIMENTAÇÃO ELÉTRICA	AC 1ø/220V/60Hz						
FABRICANTE	YORK—HITACHI						

SISTEMA DE VENTILAÇÃO

TAG		CV 03	CV 06
MODELO		GVS 9/9 — CLASSE L	GVS 12/9 — CLASSE L
QUANTIDADE		01	01
TIPO		CAIXAS DE VENTILAÇÃO C/ GAVETA P/ FILTRO — SIROCCO/DUPLA ASPIRAÇÃO	
POSIÇÃO/FILTRAGEM		A90/G4	
VAZÃO DE AR	m3/h	1.867	2.241
PRESSÃO ESTÁTICA EXTERNA	mmca	20	20
POTÊNCIA DO MOTOR/ROTAÇÃO	CV/rpm	0,22/1014	0,26/721
VELOCIDADE DE DESCARGA	m/s	6,52	5,87
FABRICANTE		OTAM (SOLER & PALAU)	
ALIMENTAÇÃO ELÉTRICA		220V/60Hz/trifásico	

SISTEMA DE EXAUSTÃO

AMBIENTE		SANITÁRIOS PCD/ DML/ COPA
TAG		EX 01
MODELO		SILENT—100
QUANTIDADE		05
TIPO		AXIAL
VAZÃO DE AR	m3/h	90
PRESSÃO ESTÁTICA EXTERNA	mmca	4
POTÊNCIA DO MOTOR		20 W
FABRICANTE		OTAM (SOLER & PALAU)
ALIMENTAÇÃO ELÉTRICA		127V/60Hz/monofásico

MATERIAIS

TAG	DESCRIÇÃO	QTDE.
01	Grelha de dupla deflexão c/ registro, mod. AT—DG 225x225 — ref: Trox	15
02	Grelha de dupla deflexão c/ registro, mod. AT—DG 225x125 — ref: Trox	04
03	Grelha de dupla deflexão c/ registro, mod. AT—DG 125x125 — ref: Trox	01
04	Grelha indevassável c/ dupla moldura mod. AGST 225x125 — ref: Trox	04

TOTAL EQUIPAMENTOS VRF

TAG	EQUIPAMENTO	MODELO	TIPO	btu/h	HP	1°PAV	2°PAV	3°PAV	4°PAV	5°PAV	6°PAV	TOTAIS
UC 01	CONDENSADORA	RAS140HNCERW	SIDE SMART	136.480	14,0	-	-	1	-	-	-	1
UC 02	CONDENSADORA	RAS360HNCERWE	SIDE SMART	341.200	36,0	-	-	-	-	2	2	4
UC 03	CONDENSADORA	RAS520HNCERWE	SIDE SMART	494.740	52,0	1	-	-	-	-	-	1
UC 04	CONDENSADORA	RAS540HNCERWE	SIDE SMART	511.800	54,0	-	1	1	-	-	-	2
UC 05	CONDENSADORA	RAS640HNCERWE	SIDE SMART	607.336	64,0	-	-	-	1	-	-	1
TOTAL COND						1	1	2	1	2	2	9
UE 01	EVAPORADORA	RCI1,0FSN3B4	CASSETE-4V	9.554	1,0	1	-	1	-	-	-	2
UE 02	EVAPORADORA	RCI1,5FSN3B4	CASSETE-4V	13.648	1,5	2	-	-	1	-	-	3
UE 03	EVAPORADORA	RCI2,0FSN3B4	CASSETE-4V	19.107	2,0	6	18	5	1	2		32
UE 04	EVAPORADORA	RCI2,5FSN3B4	CASSETE-4V	24.225	2,5	7	2	-	-	5		14
UE 05	EVAPORADORA	RCI3,0FSN3B4	CASSETE-4V	27.296	3,0	2	-	11	19	4	6	42
UE 06	EVAPORADORA	RCI4,0FSN3B4	CASSETE-4V	38.214	4,0	2	2	2	-	10	13	29
UE 07	EVAPORADORA	RCIS1,0FSKDNQ	CASSETE-1V	9.554	1,0	-	-	-	1	-	-	1
UE 08	EVAPORADORA	RCD1,0FSR	CASSETE-2V	9.554	1,0	1	-	-	-	-	-	1
UE 09	EVAPORADORA	RCD1,5FSR	CASSETE-2V	13.648	1,5	-	-	-	-	1	-	1
UE 10	EVAPORADORA	RCD2,0FSR	CASSETE-2V	19.107	2,0	1	1	-	1	1	1	5
UE 11	EVAPORADORA	RCD2,5FSR	CASSETE-2V	24.225	2,5	-	1	-	-	-	-	1
UE 12	EVAPORADORA	RCIM1,0FSRE	JUNIOR	9.554	1,0	2	1	3	2	-	-	8
UE 13	EVAPORADORA	RCIM1,5FSRE	JUNIOR	13.648	1,5	1	1	1	2	1	1	7
UE 14	EVAPORADORA	RPI5,0FSNQH	BUILT IN	48.768	5,0	-	-	3	-	-	-	3
TOTAL EVAP						25	26	26	27	24	21	149

OBSERVAÇÕES:

a) TODAS AS MEDIDAS DEVERÃO SER CONFIRMADAS NA OBRA.

b) EM CASO DE DÚVIDAS, CONSULTE O AUTOR DO PROJETO.

c) AS COTAS PREVALECEM SOBRE A ESCALA DO DESENHO.

ALTERAÇÃO	DATA	REVISÃO	ASSUNTO
AC	11/12/2023	R02	TRANSPOSIÇÃO DAS UNIDADES CONDENSADORAS PARA A COBERTURA
AC	05/06/2022	R01	ADEQUAÇÃO DE PROJETO
AC	27/04/2022	R00	PROJETO EXECUTIVO

PROJETO EXECUTIVO
AR CONDICIONADO

Proprietário: SECRETARIA DE ESTADO DE MEIO AMBIENTE - SEMA/MT
CNPJ:

Local: RUA C, ESQUINA COM A RUA F - CENTRO POLÍTICO E ADMINISTRATIVO
CUIABÁ - MT

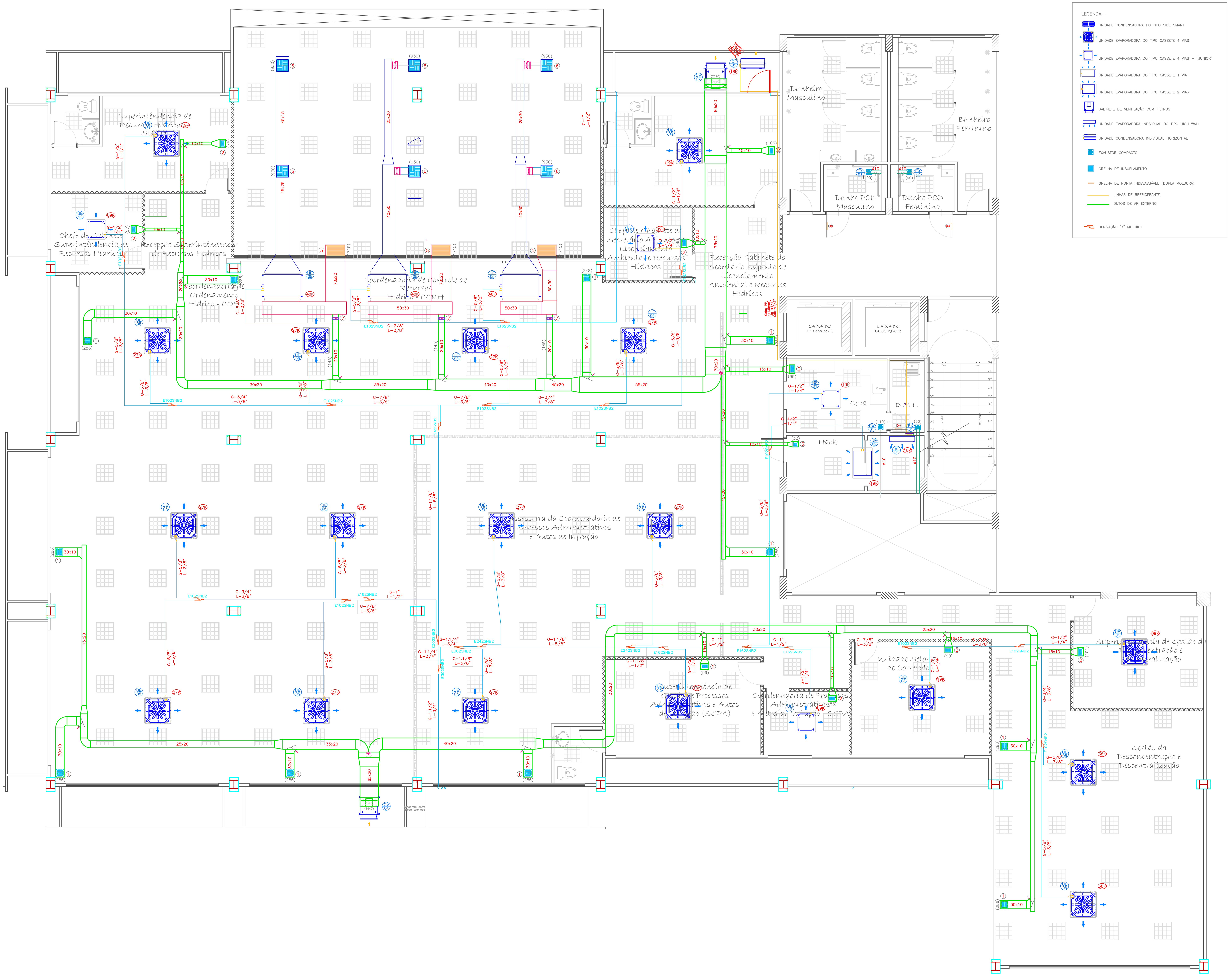
Local:
Autor do Projeto:
EDUARDO DOMINGOS SIMÕES
ENGENHEIRO MECÂNICO
CREA 2.124/D-MT
CONFEA 1207421669

Co-autores do Projeto:

Responsável Técnico:

Assunto: AR CONDICIONADO - EXPANSÃO DIRETA-VRF
VENTILAÇÃO E EXAUSTÃO MECÂNICA
PLANTA BAIXA - 2° PAVIMENTO

Escala: INDICADA | Data: 27/04/2022 | Folha: 02 / 11



PLANTA BAIXA - 3° PAVIMENTO

escala 1/50

LEGENDA:–

- UNIDADE CONDENSADORA DO TIPO SIDE SMART
- UNIDADE EVAPORADORA DO TIPO CASSETE 4 VIAS
- UNIDADE EVAPORADORA DO TIPO CASSETE 4 VIAS – "JUNIOR"
- UNIDADE EVAPORADORA DO TIPO CASSETE 1 VIA
- UNIDADE EVAPORADORA DO TIPO CASSETE 2 VIAS
- GABINETE DE VENTILAÇÃO COM FILTROS
- UNIDADE EVAPORADORA INDIVIDUAL DO TIPO HIGH WALL
- UNIDADE CONDENSADORA INDIVIDUAL HORIZONTAL
- EXAUSTOR COMPACTO
- GRELHA DE INSUFLAMENTO
- GRELHA DE PORTA INDEVASSÁVEL (DUPLA MOLDURA)
- LINHAS DE REFRIGERANTE
- DUTOS DE AR EXTERNO
- DERIVAÇÃO "Y" MULTIKIT

EQUIPAMENTOS

SISTEMA VRF - SET FREE - SIDE SMART

UNIDADE EXTERNA (CONDENSADORA)

PAVTO.	TAG	MODELO	COMBINAÇÃO	CAPAC NOM INDIVIDUAL (Kcal/h)	CAPAC NOM INDIVIDUAL (Btu/h)	CAPAC NOM INDIVIDUAL (Kwo)	CAPAC NOM TOTAL (Kcal/h)	CAPAC NOM TOTAL (Btu/h)	CAPAC NOM TOTAL (Kwo)	CONSUMO (Kwi)	EER (KWo/KWi)	PESO (Kg)	QTDE
TERCEIRO	UC 04 / 54HP	RAS540HNCERWE	RAS180HNCERW	42.650	170.600	50,00	127.950	511.800	150,00	42,42	3,54	693	01
			RAS180HNCERW	42.650	170.600	50,00							
			RAS180HNCERW	42.650	170.600	50,00							
FABRICANTE			HITACHI										
ALIMENTAÇÃO ELÉTRICA			AC 3ø / 220V / 60Hz										

UNIDADE EXTERNA (CONDENSADORA)

PAVTO.	TAG	MODELO	COMBINAÇÃO	CAPAC NOM INDIVIDUAL (Kcal/h)	CAPAC NOM INDIVIDUAL (Btu/h)	CAPAC NOM INDIVIDUAL (Kwo)	CAPAC NOM TOTAL (Kcal/h)	CAPAC NOM TOTAL (Btu/h)	CAPAC NOM TOTAL (Kwo)	CONSUMO (Kwi)	EER (KWo/KWi)	PESO (Kg)	QTDE
TERCEIRO (RECEPÇÃO)	UC 01 / 14HP	RAS140HNCERW	RAS140HNCERW	34.120	136.480	40,00	34.120	136.480	40,00	10,40	3,85	223	01
FABRICANTE			HITACHI										
ALIMENTAÇÃO ELÉTRICA			AC 3ø / 220V / 60Hz										

UNIDADES INTERNAS (EVAPORADORAS)

PAVTO.	TAG	MODELO	TIPO	CAPAC. NOM. RESFRIAMENTO (Kw)	CAPAC. NOM. RESFRIAMENTO (Kcal/h)	CAPAC. NOM. RESFRIAMENTO (Btu/h)	POT. (W)	(m3/h)	(Kg)	QTDE
TERCEIRO	UE 01 / 09K	RCI1,0FSN3B4	CASSETE 4 VIAS	2,80	2.388	9.554	57	900...540	26,50	01
	UE 03 / 19K	RCI2,0FSN3B4	CASSETE 4 VIAS	5,60	4.776	19.107	57	1320...660	27,50	04
	UE 05 / 27K	RCI3,0FSN3B4	CASSETE 4 VIAS	8,00	6.824	27.296	57	1620...840	32,50	11
	UE 06 / 38K	RCI4,0FSN3B4	CASSETE 4 VIAS	11,20	9.554	38.214	127	2220...1200	32,50	02
	UE 10 / 19K	RCD2,0FSR	CASSETE 2 VIAS	5,60	4.776	19.107	57	990...630	32,50	01
	UE 12 / 09K	RCIM1,0FSRE	CASSETE JUNIOR	2,80	2.388	9.554	57	720...360	19,00	03
	UE 13 / 13K	RCIM1,5FSRE	CASSETE JUNIOR	4,00	3.412	13.648	57	780...420	19,00	01
TERC.(RECEP.)	UE 14 / 48K	RPI5,0FSNQH	BUILT IN	14,20	12.112	48.450	200	2220...1500	58,00	03
FABRICANTE		HITACHI								
ALIMENTAÇÃO ELÉTRICA		AC 1ø / 220V / 60Hz								

SISTEMA INDIVIDUAL

UNIDADES EVAPORADORAS/CONDENSADORAS

TAG	TIPO (UE/UC)	MODELO CONJUNTO	CAPACIDADE EFETIVA (Btu/h/Watt/TR)	PESO (Kg) (UE/UC)	CONSUMO TOTAL (W)	DISJUNTOR (A)	QTDE
EI/CI 01	HI–WALL/ AXIAL–HORIZONTAL	YHCE18C3/1	18.000/5.275/1,50	10,5/32,0	1.628	16	01
ALIMENTAÇÃO ELÉTRICA	AC 1ø/220V/60Hz						
FABRICANTE	YORK–HITACHI						

SISTEMA DE VENTILAÇÃO

TAG		CV 07	CV 04
MODELO		GVS 12/9 – CLASSE L	GVS 9/9 – CLASSE L
QUANTIDADE		01	01
TIPO		CAIXAS DE VENTILAÇÃO C/ GAVETA P/ FILTRO – SIROCCO/DUPLA ASPIRAÇÃO	
POSIÇÃO/FILTRAGEM		A90/G4	
VAZÃO DE AR	m3/h	2.290	1.947
PRESSÃO ESTÁTICA EXTERNA	mmca	20	20
POTÊNCIA DO MOTOR/ROTAÇÃO	CV/rpm	0,27/719	0,24/1015
VELOCIDADE DE DESCARGA	m/s	6,00	6,79
FABRICANTE		OTAM (SOLER & PALAU)	
ALIMENTAÇÃO ELÉTRICA		220V/60Hz/trifásico	

SISTEMA DE EXAUSTÃO

AMBIENTE		SANITÁRIOS PCD/ DML/ COPA
TAG		EX 01
MODELO		SILENT–100
QUANTIDADE		04
TIPO		AXIAL
VAZÃO DE AR	m3/h	90
PRESSÃO ESTÁTICA EXTERNA	mmca	4
POTÊNCIA DO MOTOR		20 W
FABRICANTE		OTAM (SOLER & PALAU)
ALIMENTAÇÃO ELÉTRICA		127V/60Hz/monofásico

MATERIAIS

TAG	DESCRIÇÃO	QTDE.
01	Grelha de dupla deflexão c/ registro, mod. AT–DG 225x225 – ref: Trox	11
02	Grelha de dupla deflexão c/ registro, mod. AT–DG 225x125 – ref: Trox	09
03	Grelha de dupla deflexão c/ registro, mod. AT–DG 125x125 – ref: Trox	01
04	Grelha indevassável c/ dupla moldura mod. AGST 225x125 – ref: Trox	03
05	Grelha de lâminas fixas c/ registro, mod. AR–AG 625x325 – ref: Trox	03
06	Difusor de alta indução mod. VD 425 – ref: Trox	04
07	Registro de vazão de lâminas opostas, mod. RL–B 205x105 – ref: Trox	03

TOTAL EQUIPAMENTOS VRF

TAG	EQUIPAMENTO	MODELO	TIPO	btu/h	HP	1°PAV	2°PAV	3°PAV	4°PAV	5°PAV	6°PAV	TOTAIS
UC 01	CONDENSADORA	RAS140HNCERW	SIDE SMART	136.480	14,0	-	-	1	-	-	-	1
UC 02	CONDENSADORA	RAS360HNCERWE	SIDE SMART	341.200	36,0	-	-	-	-	2	2	4
UC 03	CONDENSADORA	RAS520HNCERWE	SIDE SMART	494.740	52,0	1	-	-	-	-	-	1
UC 04	CONDENSADORA	RAS540HNCERWE	SIDE SMART	511.800	54,0	-	1	1	-	-	-	2
UC 05	CONDENSADORA	RAS640HNCERWE	SIDE SMART	607.336	64,0	-	-	-	1	-	-	1
TOTAL COND						1	1	2	1	2	2	9
UE 01	EVAPORADORA	RCI1,0FSN3B4	CASSETE-4V	9.554	1,0	1	-	1	-	-	-	2
UE 02	EVAPORADORA	RCI1,5FSN3B4	CASSETE-4V	13.648	1,5	2	-	-	1	-	-	3
UE 03	EVAPORADORA	RCI2,0FSN3B4	CASSETE-4V	19.107	2,0	6	18	5	1	2		32
UE 04	EVAPORADORA	RCI2,5FSN3B4	CASSETE-4V	24.225	2,5	7	2	-	-	5		14
UE 05	EVAPORADORA	RCI3,0FSN3B4	CASSETE-4V	27.296	3,0	2	-	11	19	4	6	42
UE 06	EVAPORADORA	RCI4,0FSN3B4	CASSETE-4V	38.214	4,0	2	2	2	-	10	13	29
UE 07	EVAPORADORA	RCIS1,0FSKDNQ	CASSETE-1V	9.554	1,0	-	-	-	1	-	-	1
UE 08	EVAPORADORA	RCD1,0FSR	CASSETE-2V	9.554	1,0	1	-	-	-	-	-	1
UE 09	EVAPORADORA	RCD1,5FSR	CASSETE-2V	13.648	1,5	-	-	-	-	1	-	1
UE 10	EVAPORADORA	RCD2,0FSR	CASSETE-2V	19.107	2,0	1	1	-	1	1	1	5
UE 11	EVAPORADORA	RCD2,5FSR	CASSETE-2V	24.225	2,5	-	1	-	-	-	-	1
UE 12	EVAPORADORA	RCIM1,0FSRE	JUNIOR	9.554	1,0	2	1	3	2	-	-	8
UE 13	EVAPORADORA	RCIM1,5FSRE	JUNIOR	13.648	1,5	1	1	1	2	1	1	7
UE 14	EVAPORADORA	RPI5,0FSNQH	BUILT IN	48.768	5,0	-	-	3	-	-	-	3
TOTAL EVAP						25	26	26	27	24	21	149

OBSERVAÇÕES:

a) TODAS AS MEDIDAS DEVERÃO SER CONFIRMADAS NA OBRA.

b) EM CASO DE DÚVIDAS, CONSULTE O AUTOR DO PROJETO.

c) AS COTAS PREVALECEM SOBRE A ESCALA DO DESENHO.

ALTERAÇÃO	DATA	REVISÃO	ASSUNTO
AC	11/12/2023	R02	TRANSPOSIÇÃO DAS UNIDADES CONDENSADORAS PARA A COBERTURA
AC	05/06/2022	R01	ADEQUAÇÃO DE PROJETO
AC	27/04/2022	R00	PROJETO EXECUTIVO

KOSMOS

PROJETO EXECUTIVO

AR CONDICIONADO

Proprietário: SECRETARIA DE ESTADO DE MEIO AMBIENTE - SEMA/MT

CNPJ:

Local: RUA C, ESQUINA COM A RUA F - CENTRO POLÍTICO E ADMINISTRATIVO
CUIABÁ - MT

Local:

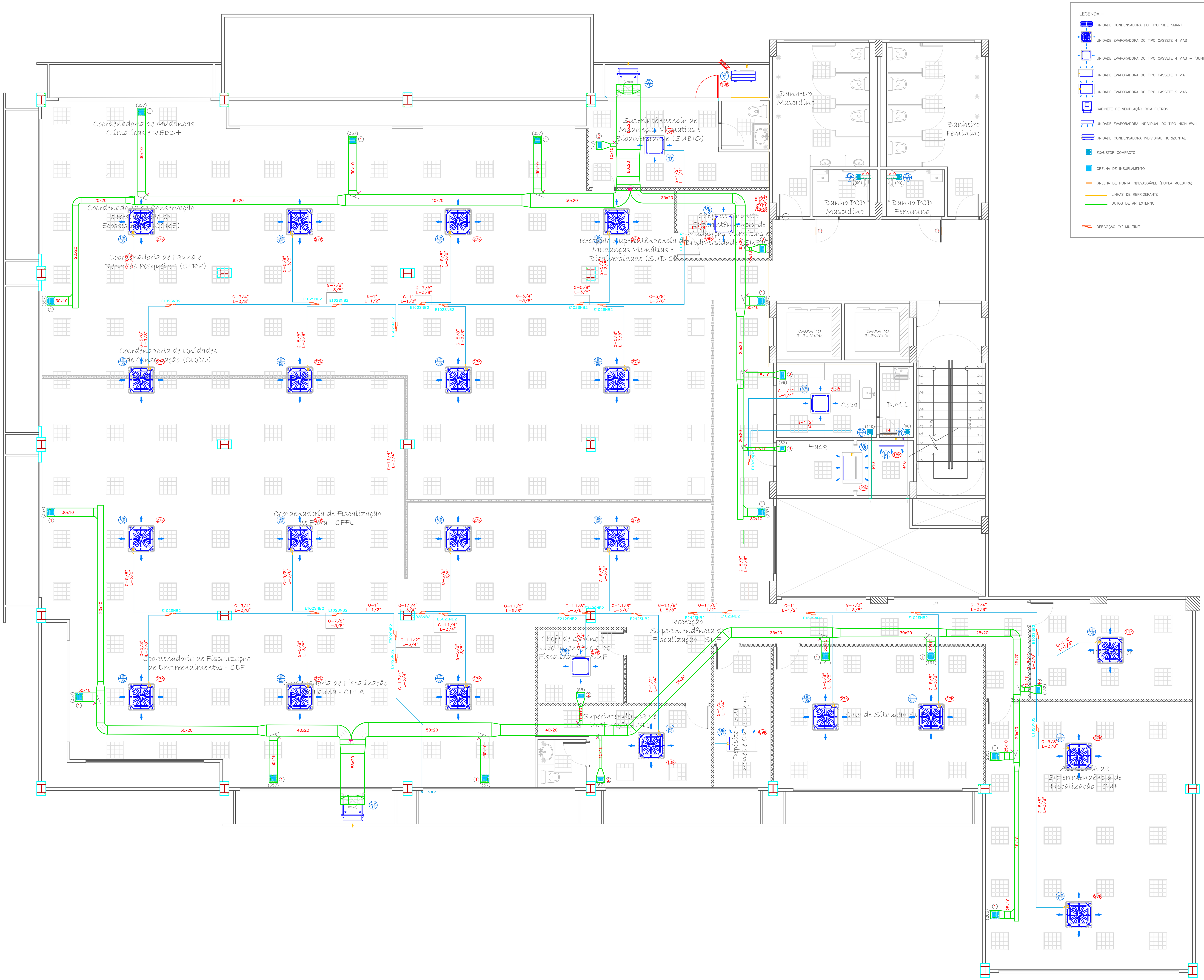
Autor do Projeto:

EDUARDO DOMINGOS SIMÕES
ENGENHEIRO MECÂNICO
CREA 2.124/D–MT
CONFEA 1207421669

Co–autores do Projeto:

Responsável Técnico:

Assunto:	Escala:	Data:	Folha:
AR CONDICIONADO - EXPANSÃO DIRETA-VRF VENTILAÇÃO E EXAUSTÃO MECÂNICA PLANTA BAIXA - 3° PAVIMENTO	INDICADA	27/04/2022	03 / 11



LEGENDA:–

- UNIDADE CONDENSADORA DO TIPO SIDE SMART
- UNIDADE EVAPORADORA DO TIPO CASSETE 4 VIAS
- UNIDADE EVAPORADORA DO TIPO CASSETE 4 VIAS – "JUNIOR"
- UNIDADE EVAPORADORA DO TIPO CASSETE 1 VIA
- UNIDADE EVAPORADORA DO TIPO CASSETE 2 VIAS
- GABINETE DE VENTILAÇÃO COM FILTROS
- UNIDADE EVAPORADORA INDIVIDUAL DO TIPO HIGH WALL
- UNIDADE CONDENSADORA INDIVIDUAL HORIZONTAL
- EXAUSTOR COMPACTO
- GRELHA DE INSUFLAMENTO
- GRELHA DE PORTA INDEVASSÁVEL (DUPLA MOLDURA)
- LINHAS DE REFRIGERANTE
- DUTOS DE AR EXTERNO
- DERIVAÇÃO "Y" MULTIKIT

PLANTA BAIXA - 4° PAVIMENTO

escala 1/50

EQUIPAMENTOS

SISTEMA VRF - SET FREE - SIDE SMART

UNIDADE EXTERNA (CONDENSADORA)

PAVTO.	TAG	MODELO	COMBINAÇÃO	CAPAC NOM INDIVIDUAL (Kcal/h)	(Btu/h)	(Kwo)	CAPAC NOM TOTAL (Kcal/h)	(Btu/h)	(Kwo)	CONSUMO (Kwi)	EER (KWo/KWi)	PESO (Kg)	QTDE
QUARTO	UC 05 / 64HP	RAS640HNCERWE	RAS180HNCERW	42.650	170.600	50,00	151.834	607.336	178,00	49,00	3,63	893	01
			RAS180HNCERW	42.650	170.600	50,00							
			RAS180HNCERW	42.650	170.600	50,00							
			RAS100HNCERW	23.884	95.536	28,00							
FABRICANTE			HITACHI										
ALIMENTAÇÃO ELÉTRICA			AC 3ø / 220V / 60Hz										

UNIDADES INTERNAS (EVAPORADORAS)

PAVTO.	TAG		MODELO	TIPO	CAPAC. NOM. RESFRIAMENTO (Kw)	(Kcal/h)	(Btu/h)	POT. (W)	(m3/h)	(Kg)	QTDE
QUARTO	UE 02	13K	RCI1,5FSN3B4	CASSETE 4 VIAS	4,00	3.412	13.648	57	1260...660	27,50	01
	UE 03	19K	RCI2,0FSN3B4	CASSETE 4 VIAS	5,60	4.776	19.107	57	1320...660	27,50	01
	UE 05	27K	RCI3,0FSN3B4	CASSETE 4 VIAS	8,00	6.824	27.296	57	1620...840	32,50	19
	UE 07	09K	RCIS1,0FSKDNQ	CASSETE 1 VIA	2,80	2.388	9.554	40	396...276	19,00	01
	UE 10	19K	RCD2,0FSR	CASSETE 2 VIAS	5,60	4.776	19.107	57	990...630	32,50	01
	UE 12	09K	RCIM1,0FSRE	CASSETE JUNIOR	2,80	2.388	9.554	57	720...360	19,00	02
	UE 13	13K	RCIM1,5FSRE	CASSETE JUNIOR	4,00	3.412	13.648	57	780...420	19,00	02
FABRICANTE			HITACHI								
ALIMENTAÇÃO ELÉTRICA			AC 1ø / 220V / 60Hz								

SISTEMA INDIVIDUAL

UNIDADES EVAPORADORAS/CONDENSADORAS

TAG	TIPO (UE/UC)	MODELO CONJUNTO	CAPACIDADE EFETIVA (Btu/h/Watt/TR)	PESO (Kg) (UE/UC)	CONSUMO TOTAL (W)	DISJUNTOR (A)	QTDE
EI/CI 01	HI–WALL/ AXIAL–HORIZONTAL	YHCE18C3/1	18.000/5.275/1,50	10,5/32,0	1.628	16	01
ALIMENTAÇÃO ELÉTRICA	AC 1ø/220V/60Hz						
FABRICANTE	YORK–HITACHI						

SISTEMA DE VENTILAÇÃO

TAG		CV 09	CV 10
MODELO		GVS 12/9 – CLASSE L	GVS 12/9 – CLASSE L
QUANTIDADE		01	01
TIPO		CAIXAS DE VENTILAÇÃO C/ GAVETA P/ FILTRO – SIROCCO/DUPLA ASPIRAÇÃO	
POSIÇÃO/FILTRAGEM		A90/G4	
VAZÃO DE AR	m3/h	2.399	2.475
PRESSÃO ESTÁTICA EXTERNA	mmca	20	20
POTÊNCIA DO MOTOR/ROTAÇÃO	CV/rpm	0,28/716	0,29/714
VELOCIDADE DE DESCARGA	m/s	6,28	6,48
FABRICANTE		OTAM (SOLER & PALAU)	
ALIMENTAÇÃO ELÉTRICA		220V/60Hz/trifásico	

SISTEMA DE EXAUSTÃO

AMBIENTE		SANITÁRIOS PCD/ DML/ COPA
TAG		EX 01
MODELO		SILENT–100
QUANTIDADE		04
TIPO		AXIAL
VAZÃO DE AR	m3/h	90
PRESSÃO ESTÁTICA EXTERNA	mmca	4
POTÊNCIA DO MOTOR		20 W
FABRICANTE		OTAM (SOLER & PALAU)
ALIMENTAÇÃO ELÉTRICA		127V/60Hz/monofásico

MATERIAIS

TAG	DESCRIÇÃO	QTDE.
01	Grelha de dupla deflexão c/ registro, mod. AT–DG 225x225 – ref: Trox	14
02	Grelha de dupla deflexão c/ registro, mod. AT–DG 225x125 – ref: Trox	06
03	Grelha de dupla deflexão c/ registro, mod. AT–DG 125x125 – ref: Trox	01
04	Grelha indevassável c/ dupla moldura mod. AGST 225x125 – ref: Trox	03

TOTAL EQUIPAMENTOS VRF

TAG	EQUIPAMENTO	MODELO	TIPO	btu/h	HP	1°PAV	2°PAV	3°PAV	4°PAV	5°PAV	6°PAV	TOTAIS
UC 01	CONDENSADORA	RAS140HNCERW	SIDE SMART	136.480	14,0	-	-	1	-	-	-	1
UC 02	CONDENSADORA	RAS360HNCERWE	SIDE SMART	341.200	36,0	-	-	-	-	2	2	4
UC 03	CONDENSADORA	RAS520HNCERWE	SIDE SMART	494.740	52,0	1	-	-	-	-	-	1
UC 04	CONDENSADORA	RAS540HNCERWE	SIDE SMART	511.800	54,0	-	1	1	-	-	-	2
UC 05	CONDENSADORA	RAS640HNCERWE	SIDE SMART	607.336	64,0	-	-	-	1	-	-	1
TOTAL COND						1	1	2	1	2	2	9
UE 01	EVAPORADORA	RCI1,0FSN3B4	CASSETE-4V	9.554	1,0	1	-	1	-	-	-	2
UE 02	EVAPORADORA	RCI1,5FSN3B4	CASSETE-4V	13.648	1,5	2	-	-	1	-	-	3
UE 03	EVAPORADORA	RCI2,0FSN3B4	CASSETE-4V	19.107	2,0	6	18	5	1	2		32
UE 04	EVAPORADORA	RCI2,5FSN3B4	CASSETE-4V	24.225	2,5	7	2	-	-	5		14
UE 05	EVAPORADORA	RCI3,0FSN3B4	CASSETE-4V	27.296	3,0	2	-	11	19	4	6	42
UE 06	EVAPORADORA	RCI4,0FSN3B4	CASSETE-4V	38.214	4,0	2	2	2	-	10	13	29
UE 07	EVAPORADORA	RCIS1,0FSKDNQ	CASSETE-1V	9.554	1,0	-	-	-	1	-	-	1
UE 08	EVAPORADORA	RCD1,0FSR	CASSETE-2V	9.554	1,0	1	-	-	-	-	-	1
UE 09	EVAPORADORA	RCD1,5FSR	CASSETE-2V	13.648	1,5	-	-	-	-	1	-	1
UE 10	EVAPORADORA	RCD2,0FSR	CASSETE-2V	19.107	2,0	1	1	-	1	1	1	5
UE 11	EVAPORADORA	RCD2,5FSR	CASSETE-2V	24.225	2,5	-	1	-	-	-	-	1
UE 12	EVAPORADORA	RCIM1,0FSRE	JUNIOR	9.554	1,0	2	1	3	2	-	-	8
UE 13	EVAPORADORA	RCIM1,5FSRE	JUNIOR	13.648	1,5	1	1	1	2	1	1	7
UE 14	EVAPORADORA	RPI5,0FSNQH	BUILT IN	48.768	5,0	-	-	3	-	-	-	3
TOTAL EVAP						25	26	26	27	24	21	149

OBSERVAÇÕES:

a) TODAS AS MEDIDAS DEVERÃO SER CONFIRMADAS NA OBRA.

b) EM CASO DE DÚVIDAS, CONSULTE O AUTOR DO PROJETO.

c) AS COTAS PREVALECEM SOBRE A ESCALA DO DESENHO.

ALTERAÇÃO	DATA	REVISÃO	ASSUNTO
AC	11/12/2023	R02	TRANSPOSIÇÃO DAS UNIDADES CONDENSADORAS PARA A COBERTURA
AC	05/06/2022	R01	ADEQUAÇÃO DE PROJETO
AC	27/04/2022	R00	PROJETO EXECUTIVO

KOSMOS

PROJETO EXECUTIVO

AR CONDICIONADO

Proprietário: SECRETARIA DE ESTADO DE MEIO AMBIENTE - SEMA/MT

CNPJ:

Local: RUA C, ESQUINA COM A RUA F - CENTRO POLÍTICO E ADMINISTRATIVO
CUIABÁ - MT

Local:

Autor do Projeto:

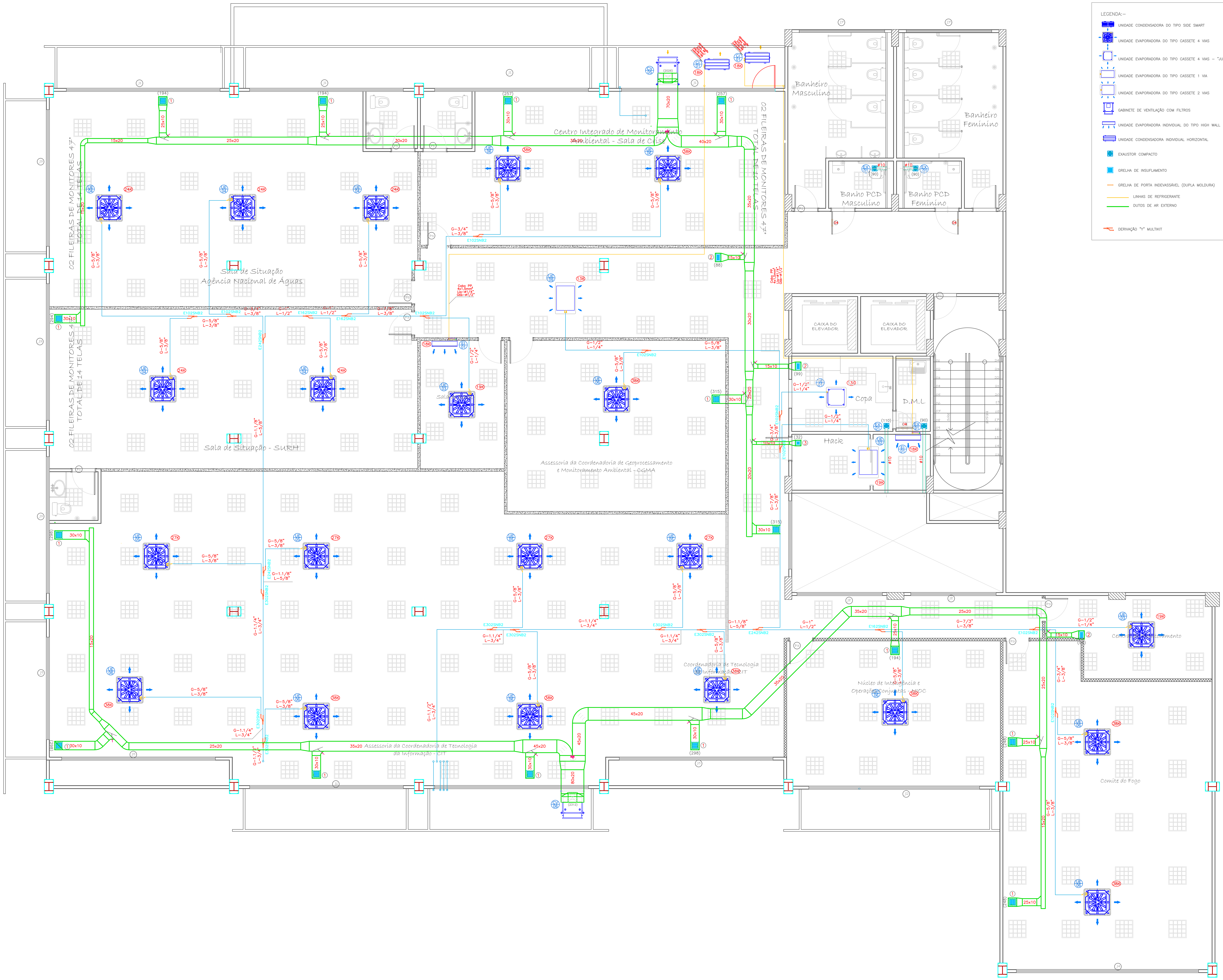
EDUARDO DOMINGOS SIMÕES
ENGENHEIRO MECÂNICO
CREA 2.124/D-MT
CONFEA 1207421669

Co-autores do Projeto:

Responsável Técnico:

Assunto: AR CONDICIONADO - EXPANSÃO DIRETA-VRF
VENTILAÇÃO E EXAUSTÃO MECÂNICA
PLANTA BAIXA - 4° PAVIMENTO

Escala: INDICADA | Data: 27/04/2022 | Folha: 04 / 11



LEGENDA:–

- UNIDADE CONDENSADORA DO TIPO SIDE SMART
- UNIDADE EVAPORADORA DO TIPO CASSETE 4 VIAS
- UNIDADE EVAPORADORA DO TIPO CASSETE 4 VIAS – "JUNIOR"
- UNIDADE EVAPORADORA DO TIPO CASSETE 1 VIA
- UNIDADE EVAPORADORA DO TIPO CASSETE 2 VIAS
- GABINETE DE VENTILAÇÃO COM FILTROS
- UNIDADE EVAPORADORA INDIVIDUAL DO TIPO HIGH WALL
- UNIDADE CONDENSADORA INDIVIDUAL HORIZONTAL
- EXAUSTOR COMPACTO
- GRELHA DE INSUFLAMENTO
- GRELHA DE PORTA INDEVASSÁVEL (DUPLA MOLDURA)
- LINHAS DE REFRIGERANTE
- DUTOS DE AR EXTERNO
- DERIVAÇÃO "Y" MULTIKIT

PLANTA BAIXA - 5° PAVIMENTO

escala 1/50

EQUIPAMENTOS

SISTEMA VRF - SET FREE - SIDE SMART

UNIDADE EXTERNA (CONDENSADORA)

PAVTO.	TAG	MODELO	COMBINAÇÃO	CAPAC NOM INDIVIDUAL (Kcal/h)	CAPAC NOM INDIVIDUAL (Btu/h)	CAPAC NOM INDIVIDUAL (Kwo)	CAPAC NOM TOTAL (Kcal/h)	CAPAC NOM TOTAL (Btu/h)	CAPAC NOM TOTAL (Kwo)	CONSUMO (Kwi)	EER (KWo/KWi)	PESO (Kg)	QTDE
QUINTO	UC 02 / 36HP	RAS360HNCERWE	RAS180HNCERW	42.650	170.600	50,00	85.300	341.200	100,00	28,28	3,54	462	02
			RAS180HNCERW	42.650	170.600	50,00							
FABRICANTE			HITACHI										
ALIMENTAÇÃO ELÉTRICA			AC 3ø / 220V / 60Hz										

UNIDADES INTERNAS (EVAPORADORAS)

PAVTO.	TAG		MODELO	TIPO	CAPAC. NOM. RESFRIAMENTO (Kw)	CAPAC. NOM. RESFRIAMENTO (Kcal/h)	CAPAC. NOM. RESFRIAMENTO (Btu/h)	POT. (W)	(m3/h)	(Kg)	QTDE
QUINTO	UE 03	19K	RCI2,0FSN3B4	CASSETE 4 VIAS	5,60	4.776	19.107	57	1320...660	27,50	02
	UE 04	24K	RCI2,5FSN3B4	CASSETE 4 VIAS	7,10	6.056	24.252	57	1620...840	28,50	05
	UE 05	27K	RCI3,0FSN3B4	CASSETE 4 VIAS	8,00	6.824	27.296	57	1620...840	32,50	04
	UE 06	38K	RCI4,0FSN3B4	CASSETE 4 VIAS	11,20	9.554	38.214	127	2220...1200	32,50	10
	UE 09	13K	RCD1,5FSR	CASSETE 2 VIAS	4,00	3.412	13.648	57	900...600	30,50	01
	UE 10	19K	RCD2,0FSR	CASSETE 2 VIAS	5,60	4.776	19.107	57	990...630	32,50	01
	UE 13	13K	RCIM1,5FSRE	CASSETE JUNIOR	4,00	3.412	13.648	57	780...420	19,00	01
FABRICANTE			HITACHI								
ALIMENTAÇÃO ELÉTRICA			AC 1ø / 220V / 60Hz								

SISTEMA INDIVIDUAL

UNIDADES EVAPORADORAS/CONDENSADORAS

TAG	TIPO (UE/UC)	MODELO CONJUNTO	CAPACIDADE EFETIVA (Btu/h/Watt/TR)	PESO (Kg) (UE/UC)	CONSUMO TOTAL (W)	DISJUNTOR (A)	QTDE
EI/CI 01	HI–WALL/ AXIAL–HORIZONTAL	YHCE18C3/1	18.000/5.275/1,50	10,5/32,0	1.628	16	02
ALIMENTAÇÃO ELÉTRICA	AC 1ø/220V/60Hz						
FABRICANTE	YORK–HITACHI						

SISTEMA DE VENTILAÇÃO

TAG		CV 05	CV 08
MODELO		GVS 12/9 – CLASSE L	GVS 12/9 – CLASSE L
QUANTIDADE		01	01
TIPO		CAIXAS DE VENTILAÇÃO C/ GAVETA P/ FILTRO – SIROCCO/DUPLA ASPIRAÇÃO	
POSIÇÃO/FILTRAGEM		A90/G4	
VAZÃO DE AR	m3/h	2.026	2.312
PRESSÃO ESTÁTICA EXTERNA	mmca	20	20
POTÊNCIA DO MOTOR/ROTAÇÃO	CV/rpm	0,24/729	0,27/718
VELOCIDADE DE DESCARGA	m/s	5,31	6,06
FABRICANTE		OTAM (SOLER & PALAU)	
ALIMENTAÇÃO ELÉTRICA		220V/60Hz/trifásico	

SISTEMA DE EXAUSTÃO

AMBIENTE		SANITÁRIOS PCD/ DML/ COPA
TAG		EX 01
MODELO		SILENT–100
QUANTIDADE		04
TIPO		AXIAL
VAZÃO DE AR	m3/h	90
PRESSÃO ESTÁTICA EXTERNA	mmca	4
POTÊNCIA DO MOTOR		20 W
FABRICANTE		OTAM (SOLER & PALAU)
ALIMENTAÇÃO ELÉTRICA		127V/60Hz/monofásico

MATERIAIS

TAG	DESCRIÇÃO	QTDE.
01	Grelha de dupla deflexão c/ registro, mod. AT–DG 225x225 – ref: Trox	14
02	Grelha de dupla deflexão c/ registro, mod. AT–DG 225x125 – ref: Trox	03
03	Grelha de dupla deflexão c/ registro, mod. AT–DG 125x125 – ref: Trox	01
04	Grelha indevassável c/ dupla moldura mod. AGST 225x125 – ref: Trox	03

TOTAL EQUIPAMENTOS VRF

TAG	EQUIPAMENTO	MODELO	TIPO	btu/h	HP	1°PAV	2°PAV	3°PAV	4°PAV	5°PAV	6°PAV	TOTAIS
UC 01	CONDENSADORA	RAS140HNCERW	SIDE SMART	136.480	14,0	-	-	1	-	-	-	1
UC 02	CONDENSADORA	RAS360HNCERWE	SIDE SMART	341.200	36,0	-	-	-	-	2	2	4
UC 03	CONDENSADORA	RAS520HNCERWE	SIDE SMART	494.740	52,0	1	-	-	-	-	-	1
UC 04	CONDENSADORA	RAS540HNCERWE	SIDE SMART	511.800	54,0	-	1	1	-	-	-	2
UC 05	CONDENSADORA	RAS640HNCERWE	SIDE SMART	607.336	64,0	-	-	-	1	-	-	1
TOTAL COND						1	1	2	1	2	2	9
UE 01	EVAPORADORA	RCI1,0FSN3B4	CASSETE-4V	9.554	1,0	1	-	1	-	-	-	2
UE 02	EVAPORADORA	RCI1,5FSN3B4	CASSETE-4V	13.648	1,5	2	-	-	1	-	-	3
UE 03	EVAPORADORA	RCI2,0FSN3B4	CASSETE-4V	19.107	2,0	6	18	5	1	2		32
UE 04	EVAPORADORA	RCI2,5FSN3B4	CASSETE-4V	24.225	2,5	7	2	-	-	5		14
UE 05	EVAPORADORA	RCI3,0FSN3B4	CASSETE-4V	27.296	3,0	2	-	11	19	4	6	42
UE 06	EVAPORADORA	RCI4,0FSN3B4	CASSETE-4V	38.214	4,0	2	2	2	-	10	13	29
UE 07	EVAPORADORA	RCIS1,0FSKDNQ	CASSETE-1V	9.554	1,0	-	-	-	1	-	-	1
UE 08	EVAPORADORA	RCD1,0FSR	CASSETE-2V	9.554	1,0	1	-	-	-	-	-	1
UE 09	EVAPORADORA	RCD1,5FSR	CASSETE-2V	13.648	1,5	-	-	-	-	1	-	1
UE 10	EVAPORADORA	RCD2,0FSR	CASSETE-2V	19.107	2,0	1	1	-	1	1	1	5
UE 11	EVAPORADORA	RCD2,5FSR	CASSETE-2V	24.225	2,5	-	1	-	-	-	-	1
UE 12	EVAPORADORA	RCIM1,0FSRE	JUNIOR	9.554	1,0	2	1	3	2	-	-	8
UE 13	EVAPORADORA	RCIM1,5FSRE	JUNIOR	13.648	1,5	1	1	1	2	1	1	7
UE 14	EVAPORADORA	RPI5,0FSNQH	BUILT IN	48.768	5,0	-	-	3	-	-	-	3
TOTAL EVAP						25	26	26	27	24	21	149

OBSERVAÇÕES:

a) TODAS AS MEDIDAS DEVERÃO SER CONFIRMADAS NA OBRA.
b) EM CASO DE DÚVIDAS, CONSULTE O AUTOR DO PROJETO.
c) AS COTAS PREVALECEM SOBRE A ESCALA DO DESENHO.

ALTERAÇÃO	DATA	REVISÃO	ASSUNTO
AC	11/12/2023	R02	TRANSPOSIÇÃO DAS UNIDADES CONDENSADORAS PARA A COBERTURA
AC	05/06/2022	R01	ADEQUAÇÃO DE PROJETO
AC	27/04/2022	R00	PROJETO EXECUTIVO

PROJETO EXECUTIVO
AR CONDICIONADO

Proprietário: SECRETARIA DE ESTADO DE MEIO AMBIENTE - SEMA/MT
CNPJ:

Local: RUA C, ESQUINA COM A RUA F - CENTRO POLÍTICO E ADMINISTRATIVO
CUIABÁ - MT

Local:

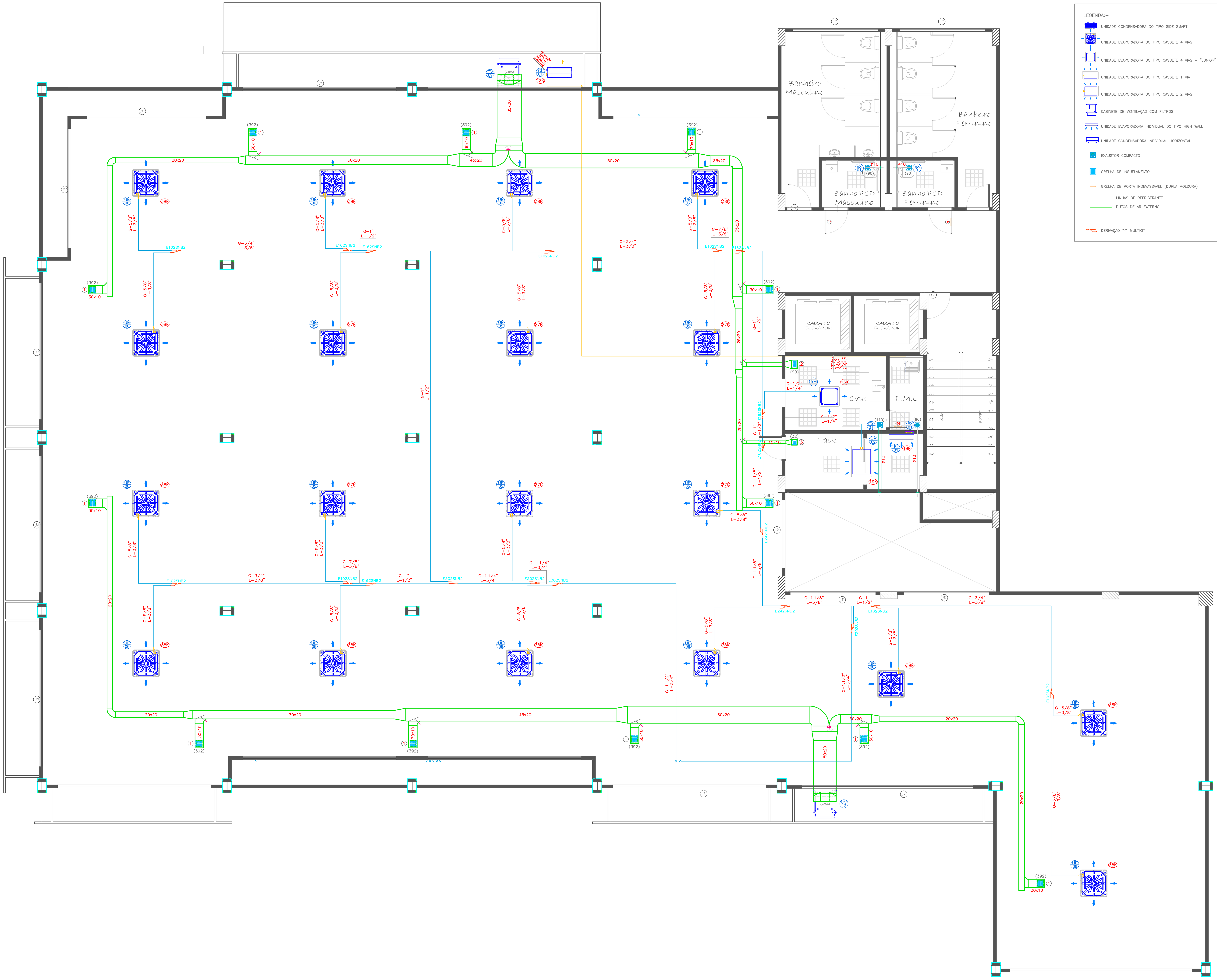
Autor do Projeto:
EDUARDO DOMINGOS SIMÕES
ENGENHEIRO MECÂNICO
CREA 2.124/D-MT
CONFEA 1207421669

Co-autores do Projeto:

Responsável Técnico:

Assunto: AR CONDICIONADO - EXPANSÃO DIRETA-VRF
VENTILAÇÃO E EXAUSTÃO MECÂNICA
PLANTA BAIXA - 5° PAVIMENTO

Escala: INDICADA | Data: 27/04/2022 | Folha: 05 / 11



PLANTA BAIXA - 6° PAVIMENTO

escala 1/50

LEGENDA:-

- UNIDADE CONDENSADORA DO TIPO SIDE SMART
- UNIDADE EVAPORADORA DO TIPO CASSETE 4 VIAS
- UNIDADE EVAPORADORA DO TIPO CASSETE 4 VIAS - "JUNIOR"
- UNIDADE EVAPORADORA DO TIPO CASSETE 1 VIA
- UNIDADE EVAPORADORA DO TIPO CASSETE 2 VIAS
- GABINETE DE VENTILAÇÃO COM FILTROS
- UNIDADE EVAPORADORA INDIVIDUAL DO TIPO HIGH WALL
- UNIDADE CONDENSADORA INDIVIDUAL HORIZONTAL
- EXAUSTOR COMPACTO
- GRELHA DE INSUFLAMENTO
- GRELHA DE PORTA INDEVASSÁVEL (DUPLA MOLDURA)
- LINHAS DE REFRIGERANTE
- DUTOS DE AR EXTERNO
- DERIVAÇÃO "Y" MULTIKIT

EQUIPAMENTOS

SISTEMA VRF - SET FREE - SIDE SMART

UNIDADE EXTERNA (CONDENSADORA)

PAVTO.	TAG	MODELO	COMBINAÇÃO	CAPAC NOM INDIVIDUAL (Kcal/h)	(Btu/h)	(Kwo)	CAPAC NOM TOTAL (Kcal/h)	(Btu/h)	(Kwo)	CONSUMO (Kwi)	EER (KWo/KWi)	PESO (Kg)	QTDE
SEXTO	UC 02 / 36HP	RAS360HNCERWE	RAS180HNCERW	42.650	170.600	50,00	85.300	341.200	100,00	28,28	3,54	462	02
			RAS180HNCERW	42.650	170.600	50,00							
FABRICANTE			HITACHI										
ALIMENTAÇÃO ELÉTRICA			AC 3ø / 220V / 60Hz										

UNIDADES INTERNAS (EVAPORADORAS)

PAVTO.	TAG		MODELO	TIPO	CAPAC. NOM. RESFRIAMENTO (Kw)	(Kcal/h)	(Btu/h)	POT. (W)	(m3/h)	(Kg)	QTDE
SEXTO	UE 05	27K	RCI3,0FSN3B4	CASSETE 4 VIAS	8,00	6.824	27.296	57	1620...840	32,50	06
	UE 06	38K	RCI4,0FSN3B4	CASSETE 4 VIAS	11,20	9.554	38.214	127	2220...1200	32,50	13
	UE 10	19K	RCD2,0FSR	CASSETE 2 VIAS	5,60	4.776	19.107	57	990...630	32,50	01
	UE 13	13K	RCIM1,5FSRE	CASSETE JUNIOR	4,00	3.412	13.648	57	780...420	19,00	01
FABRICANTE			HITACHI								
ALIMENTAÇÃO ELÉTRICA			AC 1ø / 220V / 60Hz								

SISTEMA INDIVIDUAL

UNIDADES EVAPORADORAS/CONDENSADORAS

TAG	TIPO (UE/UC)	MODELO CONJUNTO	CAPACIDADE EFETIVA (Btu/h/Watt/TR)	PESO (Kg) (UE/UC)	CONSUMO TOTAL (W)	DISJUNTOR (A)	QTDE
EI/CI 01	HI-WALL/ AXIAL-HORIZONTAL	YHCE18C3/1	18.000/5.275/1,50	10,5/32,0	1.628	16	02
ALIMENTAÇÃO ELÉTRICA	AC 1ø/220V/60Hz						
FABRICANTE	YORK-HITACHI						

SISTEMA DE VENTILAÇÃO

TAG		CV 09	CV 08
MODELO		GVS 12/9 - CLASSE L	GVS 12/9 - CLASSE L
QUANTIDADE		01	01
TIPO		CAIXAS DE VENTILAÇÃO C/ GAVETA P/ FILTRO - SIROCCO/DUPLA ASPIRAÇÃO	
POSIÇÃO/FILTRAGEM		A90/G4	
VAZÃO DE AR	m3/h	2.485	2.354
PRESSÃO ESTÁTICA EXTERNA	mmca	20	20
POTÊNCIA DO MOTOR/ROTAÇÃO	CV/rpm	0,30/722	0,28/725
VELOCIDADE DE DESCARGA	m/s	6,51	6,17
FABRICANTE		OTAM (SOLER & PALAU)	
ALIMENTAÇÃO ELÉTRICA		220V/60Hz/trifásico	

SISTEMA DE EXAUSTÃO

AMBIENTE		SANITÁRIOS PCD/ DML/ COPA
TAG		EX 01
MODELO		SILENT-100
QUANTIDADE		04
TIPO		AXIAL
VAZÃO DE AR	m3/h	90
PRESSÃO ESTÁTICA EXTERNA	mmca	4
POTÊNCIA DO MOTOR		20 W
FABRICANTE		OTAM (SOLER & PALAU)
ALIMENTAÇÃO ELÉTRICA		127V/60Hz/monofásico

MATERIAIS

TAG	DESCRIÇÃO	QTDE.
01	Grelha de dupla deflexão c/ registro, mod. AT-DG 225x225 - ref: Trox	12
02	Grelha de dupla deflexão c/ registro, mod. AT-DG 225x125 - ref: Trox	01
03	Grelha de dupla deflexão c/ registro, mod. AT-DG 125x125 - ref: Trox	01
04	Grelha indevassável c/ dupla moldura mod. AGST 225x125 - ref: Trox	03

TOTAL EQUIPAMENTOS VRF

TAG	EQUIPAMENTO	MODELO	TIPO	btu/h	HP	1ºPAV	2ºPAV	3ºPAV	4ºPAV	5ºPAV	6ºPAV	TOTAIS
UC 01	CONDENSADORA	RAS140HNCERW	SIDE SMART	136.480	14.0	-	-	1	-	-	-	1
UC 02	CONDENSADORA	RAS360HNCERWE	SIDE SMART	341.200	36.0	-	-	-	-	2	2	4
UC 03	CONDENSADORA	RAS520HNCERWE	SIDE SMART	494.740	52.0	1	-	-	-	-	-	1
UC 04	CONDENSADORA	RAS540HNCERWE	SIDE SMART	511.800	54.0	-	1	1	-	-	-	2
UC 05	CONDENSADORA	RAS640HNCERWE	SIDE SMART	607.336	64.0	-	-	-	1	-	-	1
TOTAL COND						1	1	2	1	2	2	9
UE 01	EVAPORADORA	RCI1,0FSN3B4	CASSETE-4V	9.554	1.0	1	-	1	-	-	-	2
UE 02	EVAPORADORA	RCI1,5FSN3B4	CASSETE-4V	13.648	1.5	2	-	-	1	-	-	3
UE 03	EVAPORADORA	RCI2,0FSN3B4	CASSETE-4V	19.107	2.0	6	18	5	1	2		32
UE 04	EVAPORADORA	RCI2,5FSN3B4	CASSETE-4V	24.225	2.5	7	2	-	-	5		14
UE 05	EVAPORADORA	RCI3,0FSN3B4	CASSETE-4V	27.296	3.0	2	-	11	19	4	6	42
UE 06	EVAPORADORA	RCI4,0FSN3B4	CASSETE-4V	38.214	4.0	2	2	2	-	10	13	29
UE 07	EVAPORADORA	RCIS1,0FSKDNQ	CASSETE-1V	9.554	1.0	-	-	-	1	-	-	1
UE 08	EVAPORADORA	RCD1,0FSR	CASSETE-2V	9.554	1.0	1	-	-	-	-	-	1
UE 09	EVAPORADORA	RCD1,5FSR	CASSETE-2V	13.648	1.5	-	-	-	-	1	-	1
UE 10	EVAPORADORA	RCD2,0FSR	CASSETE-2V	19.107	2.0	1	1	-	1	1	1	5
UE 11	EVAPORADORA	RCD2,5FSR	CASSETE-2V	24.225	2.5	-	1	-	-	-	-	1
UE 12	EVAPORADORA	RCIM1,0FSRE	JUNIOR	9.554	1.0	2	1	3	2	-	-	8
UE 13	EVAPORADORA	RCIM1,5FSRE	JUNIOR	13.648	1.5	1	1	1	2	1	1	7
UE 14	EVAPORADORA	RPI5,0FSNQH	BUILT IN	48.768	5.0	-	-	3	-	-	-	3
TOTAL EVAP						25	26	26	27	24	21	149

OBSERVAÇÕES:

a) TODAS AS MEDIDAS DEVERÃO SER CONFIRMADAS NA OBRA.

b) EM CASO DE DÚVIDAS, CONSULTE O AUTOR DO PROJETO.

c) AS COTAS PREVALECEM SOBRE A ESCALA DO DESENHO.

ALTERAÇÃO	DATA	REVISÃO	ASSUNTO
AC	11/12/2023	R02	TRANSPOSIÇÃO DAS UNIDADES CONDENSADORAS PARA A COBERTURA
AC	11/06/2022	R01	PROJETO EXECUTIVO - ACRÉSCIMO DO SEXTO PAVIMENTO

KOSMOS

PROJETO EXECUTIVO
AR CONDICIONADO

Proprietário: SECRETARIA DE ESTADO DE MEIO AMBIENTE - SEMA/MT

CNPJ:

Local: RUA C, ESQUINA COM A RUA F - CENTRO POLÍTICO E ADMINISTRATIVO
CUIABÁ - MT

Local:

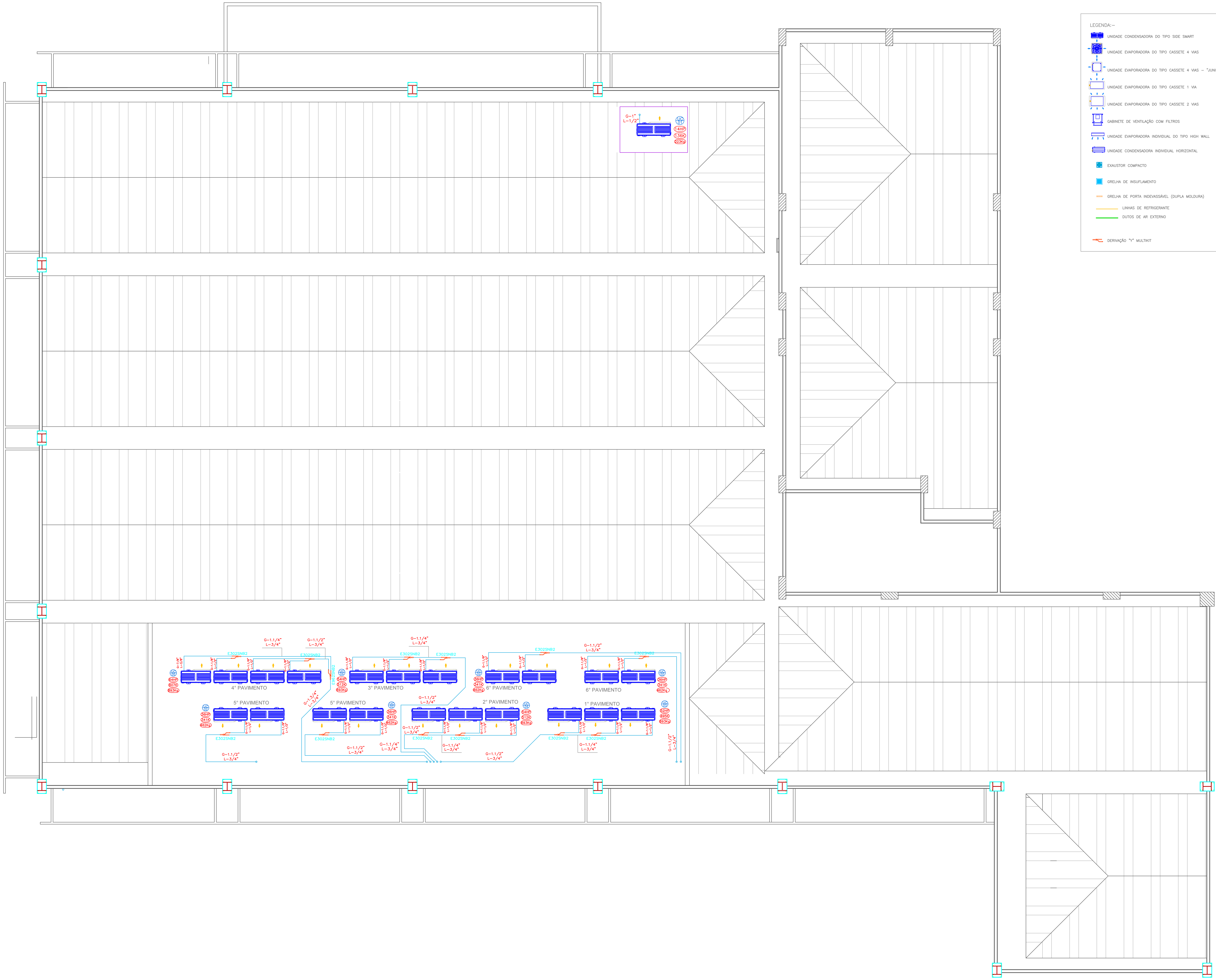
Autor do Projeto:
EDUARDO DOMINGOS SIMÕES
ENGENHEIRO MECÂNICO
CREA 2.124/D-MT
CONFEA 1207421669

Co-autores do Projeto:

Responsável Técnico:

Assunto: AR CONDICIONADO - EXPANSÃO DIRETA-VRF
VENTILAÇÃO E EXAUSTÃO MECÂNICA
PLANTA BAIXA - 6° PAVIMENTO

Escala: INDICADA | Data: 12/12/2023 | Folha: 06 / 11



PLANTA BAIXA -COBERTURA

escala 1/50

LEGENDA:–

- UNIDADE CONDENSADORA DO TIPO SIDE SMART
- UNIDADE EVAPORADORA DO TIPO CASSETE 4 VIAS
- UNIDADE EVAPORADORA DO TIPO CASSETE 4 VIAS – "JUNIOR"
- UNIDADE EVAPORADORA DO TIPO CASSETE 1 VIA
- UNIDADE EVAPORADORA DO TIPO CASSETE 2 VIAS
- GABINETE DE VENTILAÇÃO COM FILTROS
- UNIDADE EVAPORADORA INDIVIDUAL DO TIPO HIGH WALL
- UNIDADE CONDENSADORA INDIVIDUAL HORIZONTAL
- EXAUSTOR COMPACTO
- GRELHA DE INSUFLAMENTO
- GRELHA DE PORTA INDEVASSÁVEL (DUPLA MOLDURA)
- LINHAS DE REFRIGERANTE
- DUTOS DE AR EXTERNO
- DERIVAÇÃO "Y" MULTIKIT

OBSERVAÇÕES:

a) TODAS AS MEDIDAS DEVERÃO SER CONFIRMADAS NA OBRA.

b) EM CASO DE DÚVIDAS, CONSULTE O AUTOR DO PROJETO.

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ALTERAÇÃO	DATA	REVISÃO	ASSUNTO
AC	11/06/2022	R00	TRANSPOSIÇÃO DAS UNIDADES CONDENSADORAS PARA A COBERTURA

KOSMOS

PROJETO EXECUTIVO

AR CONDICIONADO

Proprietário: SECRETARIA DE ESTADO DE MEIO AMBIENTE - SEMA/MT

CNPJ:

Local: RUA C, ESQUINA COM A RUA F - CENTRO POLÍTICO E ADMINISTRATIVO
CUIABÁ - MT

Local:

Autor do Projeto:

EDUARDO DOMINGOS SIMÕES
ENGENHEIRO MECÂNICO
CREA 2.124/D-MT
CONFEA 1207421669

Co-autores do Projeto:

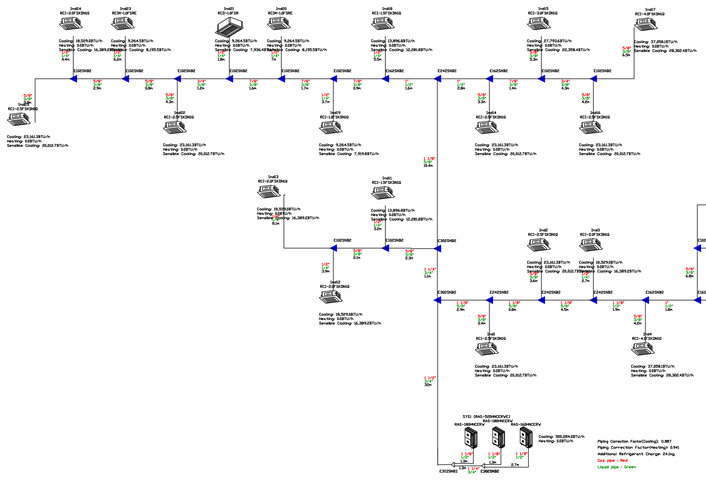
Responsável Técnico:

Assunto: AR CONDICIONADO - EXPANSÃO DIRETA-VRF
VENTILAÇÃO E EXAUSTÃO MECÂNICA
PLANTA BAIXA - COBERTURA

Escala: INDICADA

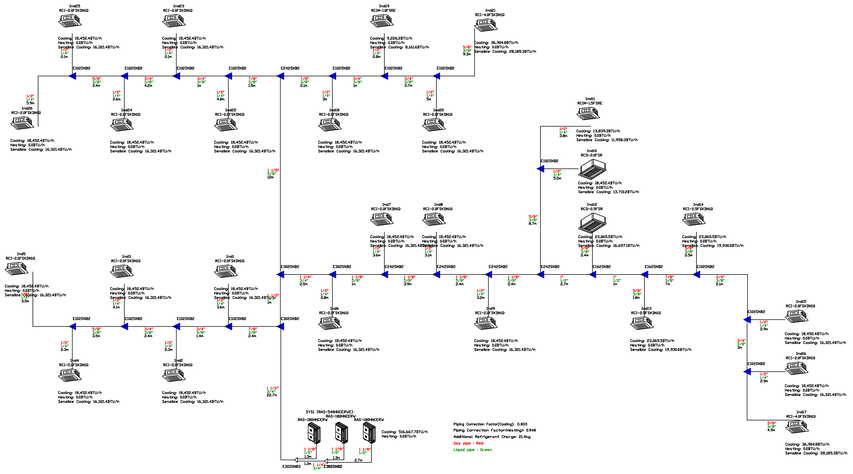
Data: 12/12/2023

Folha: 07 / 11



ÁRVORE DE DISTRIBUIÇÃO
DE REFRIGERANTE - 1°PAVIMENTO

s/ _____ escala

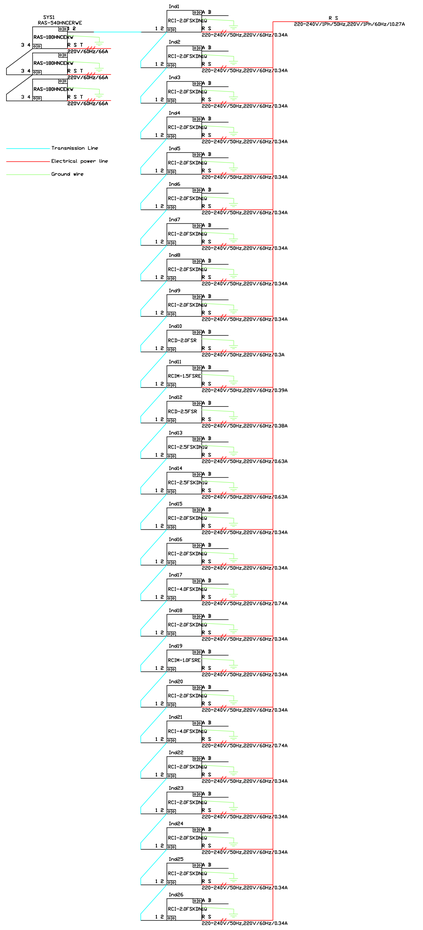


ÁRVORE DE DISTRIBUIÇÃO
DE REFRIGERANTE - 2°PAVIMENTO

s/ _____ escala

ESQUEMA ELÉTRICO E DE
COMUNICAÇÃO -1° PAVIMENTO

s/ _____ escala



ESQUEMA ELÉTRICO E DE
COMUNICAÇÃO -2° PAVIMENTO

s/ _____ escala

OBSERVAÇÕES:

a) TODAS AS MEDIDAS DEVERÃO SER CONFIRMADAS NA OBRA.

b) EM CASO DE DÚVIDAS, CONSULTE O AUTOR DO PROJETO.

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ALTERAÇÃO	DATA	REVISÃO	ASSUNTO
AC	05/06/2022	R01	ADEQUAÇÃO DE PROJETO
AC	27/04/2022	R00	PROJETO EXECUTIVO

KOSMOS

PROJETO EXECUTIVO
AR CONDICIONADO

Proprietário: SECRETARIA DE ESTADO DE MEIO AMBIENTE - SEMA/MT

CNPJ:

Local: RUA C, ESQUINA COM A RUA F - CENTRO POLÍTICO E ADMINISTRATIVO
CUIABÁ - MT

Autor do Projeto:

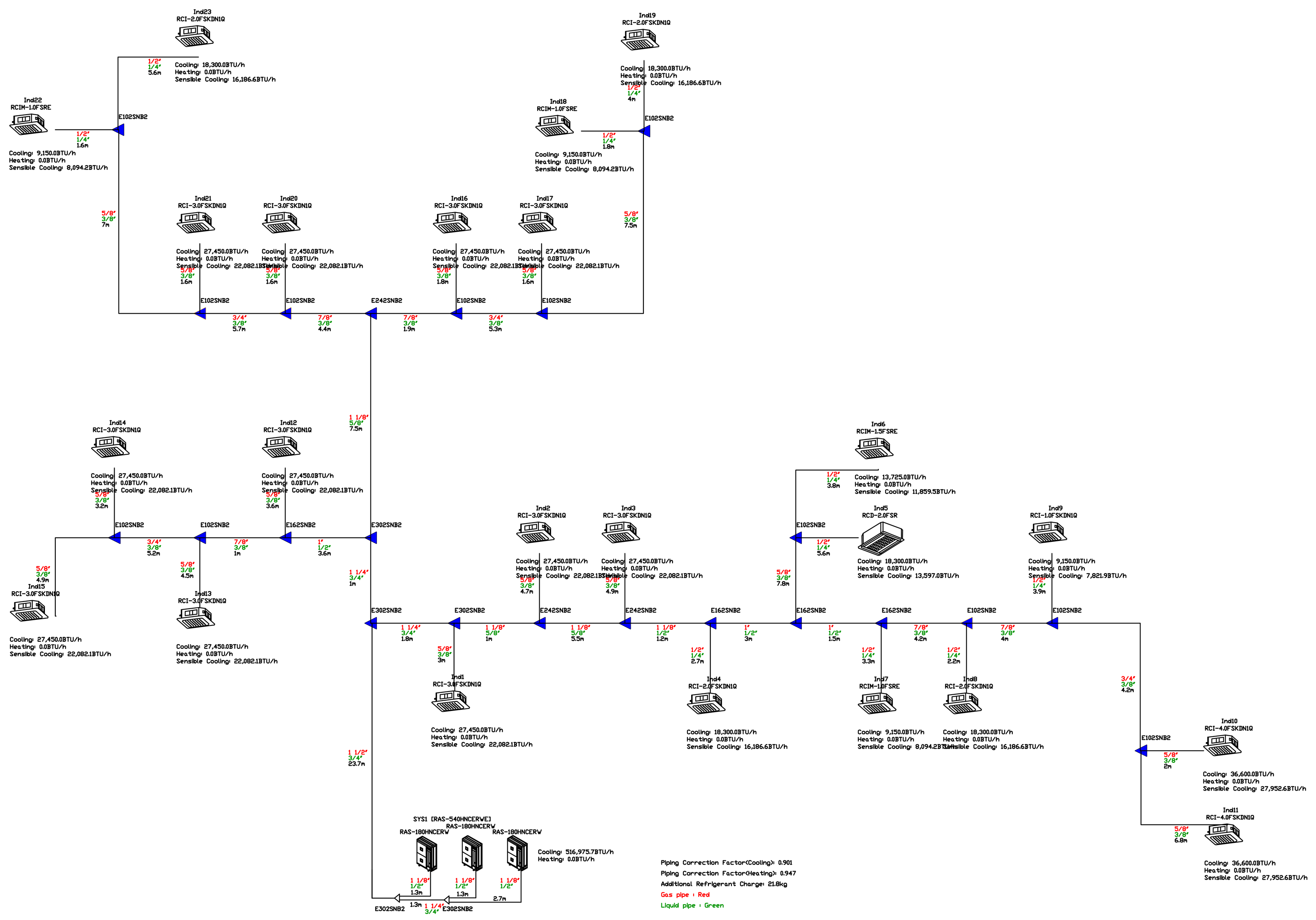
EDUARDO DOMINGOS SIMÕES

Coautores do Projeto:

Responsável Técnico:

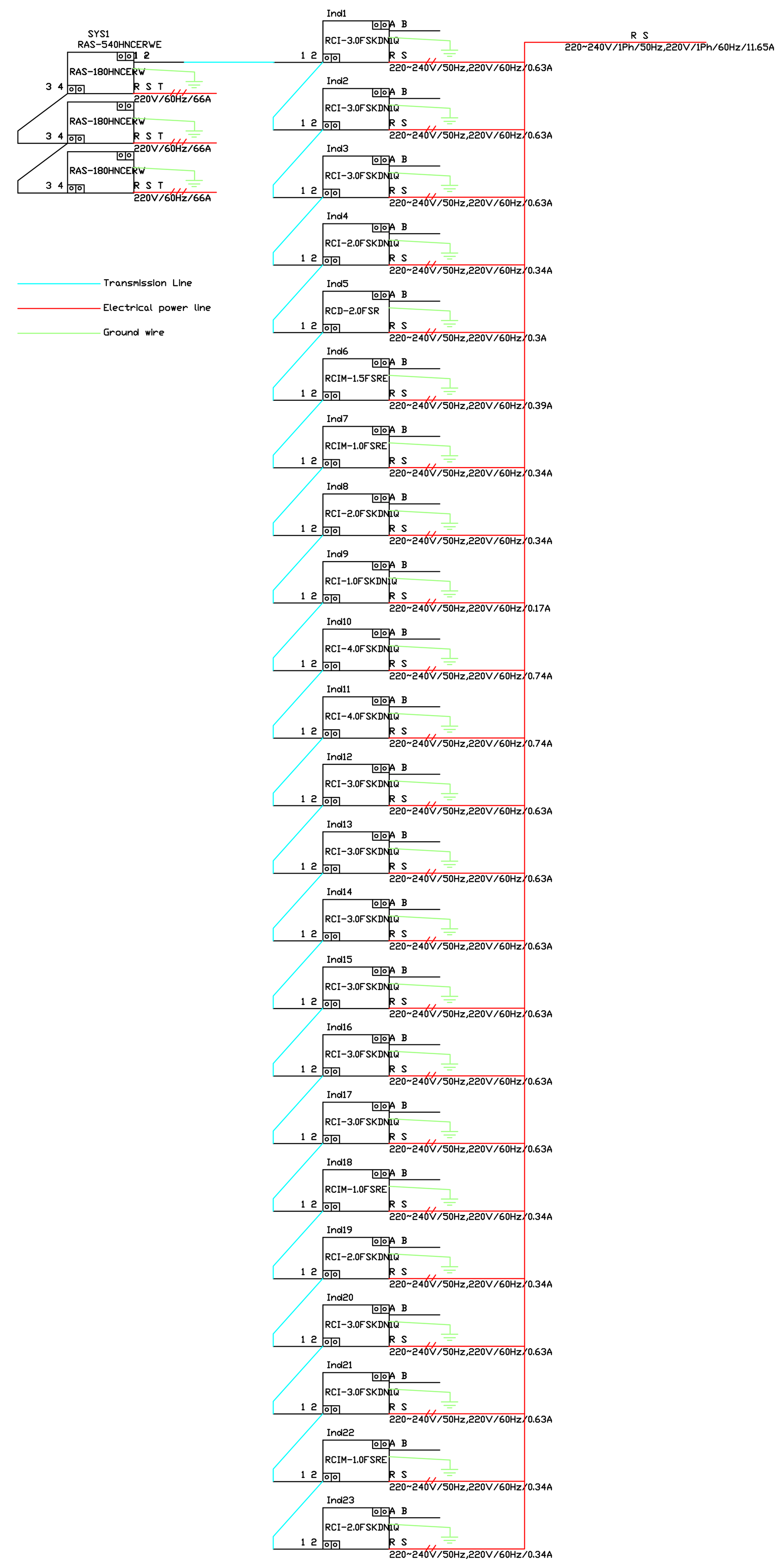
Assunto: ÁRVORE DE DISTRIBUIÇÃO DE REFRIGERANTE
ESQUEMA ELÉTRICO E DE COMUNICAÇÃO - 1° E 2° PAVIMENTOS
AR CONDICIONADO - EXPANSÃO DIRETA - SISTEMA VRF

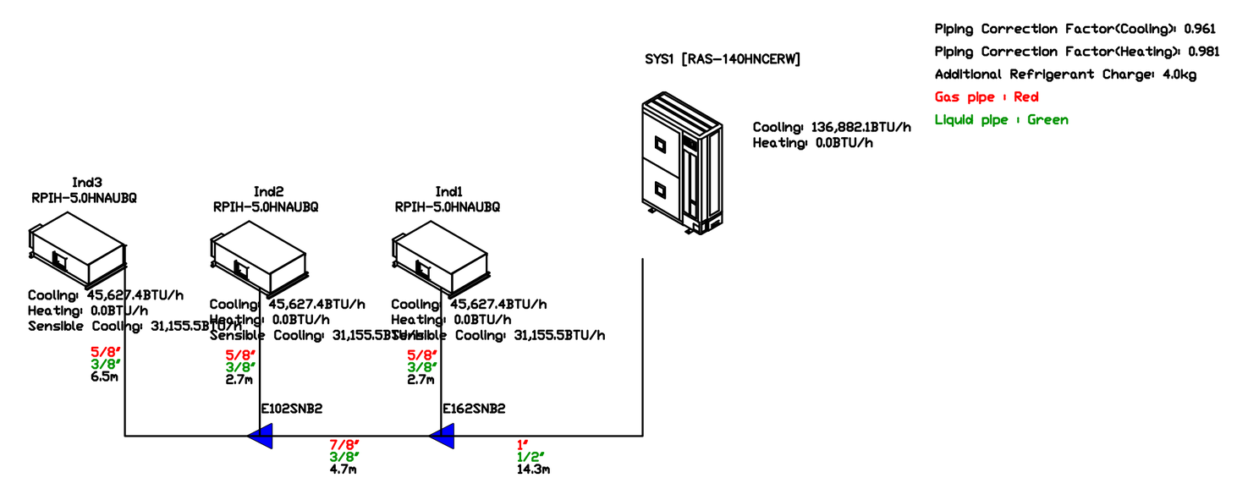
Escala:	Data:	Folha:
INDICADA	12/12/2023	08 / 11



ÁRVORE DE DISTRIBUIÇÃO
DE REFRIGERANTE - 3°PAVIMENTO

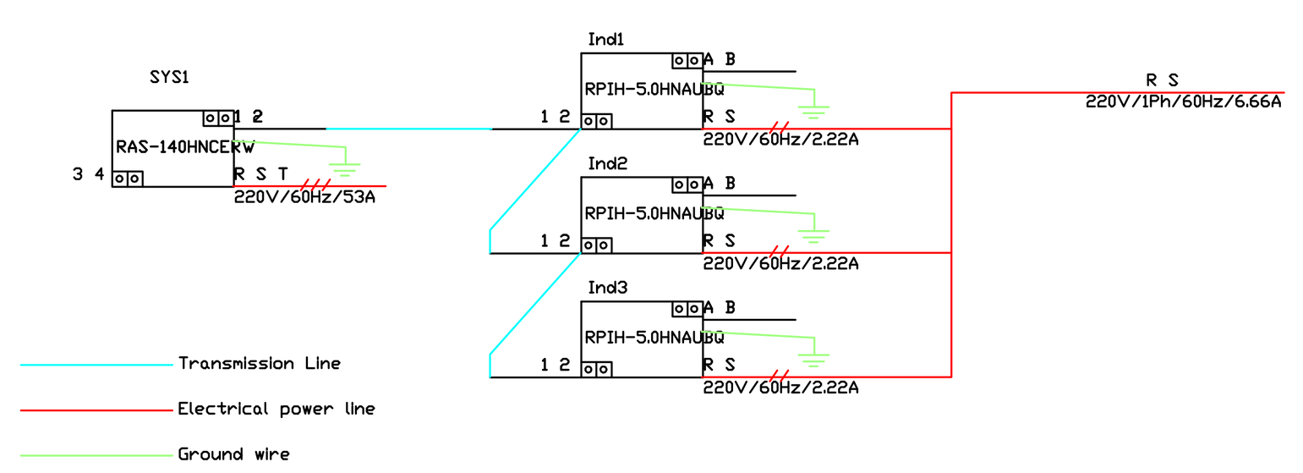
s/ ____________________ escala





ÁRVORE DE DISTRIBUIÇÃO
DE REFRIGERANTE - 3°PAVIMENTO (RECEPÇÃO)

s/ ____________________ escala



ESQUEMA ELÉTRICO E DE
COMUNICAÇÃO -3° PAVIMENTO (RECEPÇÃO)

s/ ____________________ escala

ESQUEMA ELÉTRICO E DE
COMUNICAÇÃO -3° PAVIMENTO

s/ ____________________ escala

OBSERVAÇÕES:

a) TODAS AS MEDIDAS DEVERÃO SER CONFIRMADAS NA OBRA.

b) EM CASO DE DÚVIDAS, CONSULTE O AUTOR DO PROJETO.

c) AS COTAS PREVALECEM SOBRE A ESCALA DO DESENHO.

ALTERAÇÃO	DATA	REVISÃO	ASSUNTO
AC	05/06/2022	R01	ADEQUAÇÃO DE PROJETO
AC	27/04/2022	R00	PROJETO EXECUTIVO

KOSMOS

PROJETO EXECUTIVO
AR CONDICIONADO

Proprietário: SECRETARIA DE ESTADO DE MEIO AMBIENTE - SEMA/MT
CNPJ:

Local: RUA C, ESQUINA COM A RUA F - CENTRO POLÍTICO E ADMINISTRATIVO
CUIABÁ - MT

Local:
Autor do Projeto:

EDUARDO DOMINGOS SIMÕES
ENGENHEIRO MECÂNICO
CREA 2.124/D-MT
CONFEA 1207421669

Co-autores do Projeto:

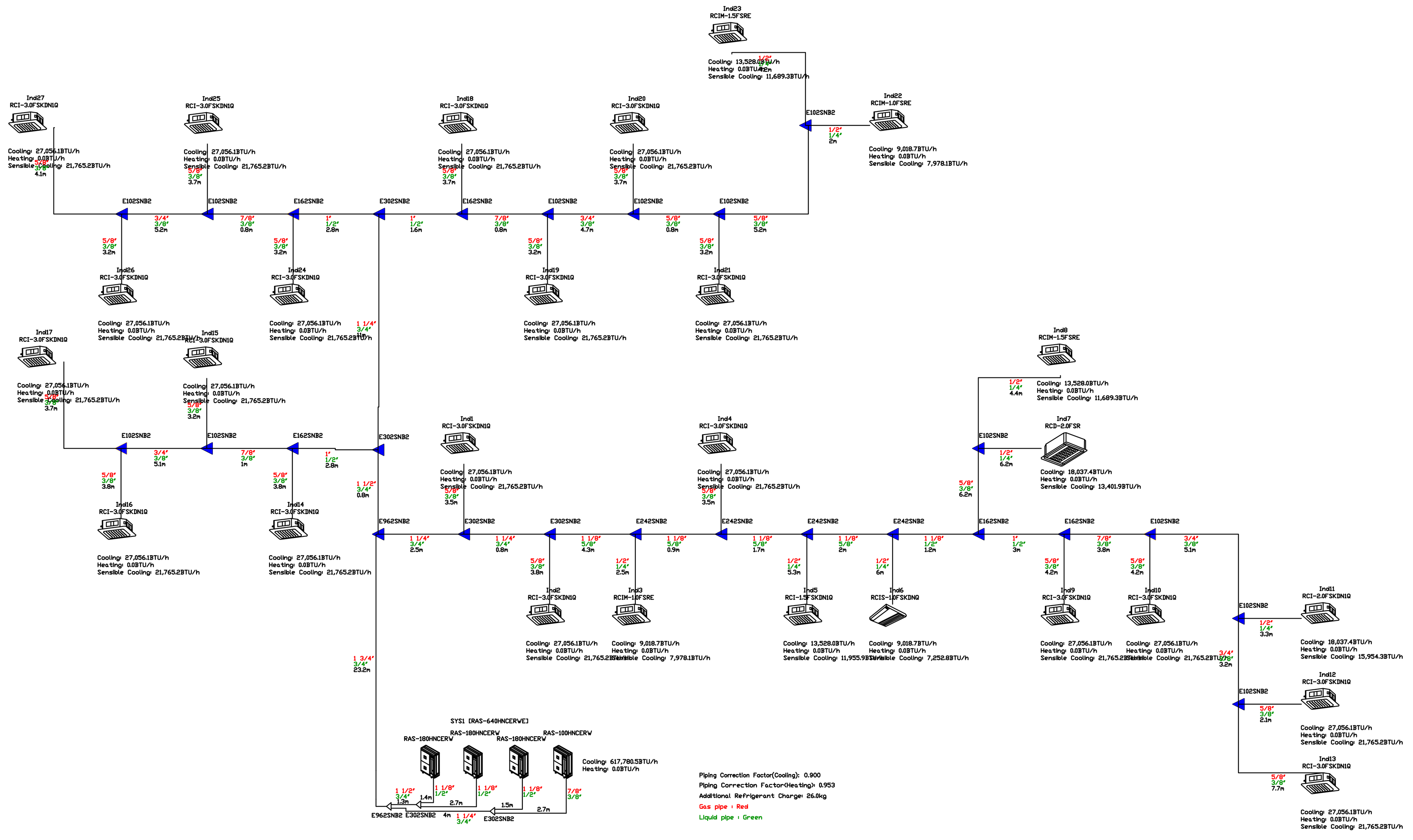
Responsável Técnico:

Assunto: ÁRVORE DE DISTRIBUIÇÃO DE REFRIGERANTE
ESQUEMA ELÉTRICO E DE COMUNICAÇÃO - 3° PAVIMENTO E RECEPÇÃO
AR CONDICIONADO - EXPANSÃO DIRETA - SISTEMA VRF

Escala: INDICADA

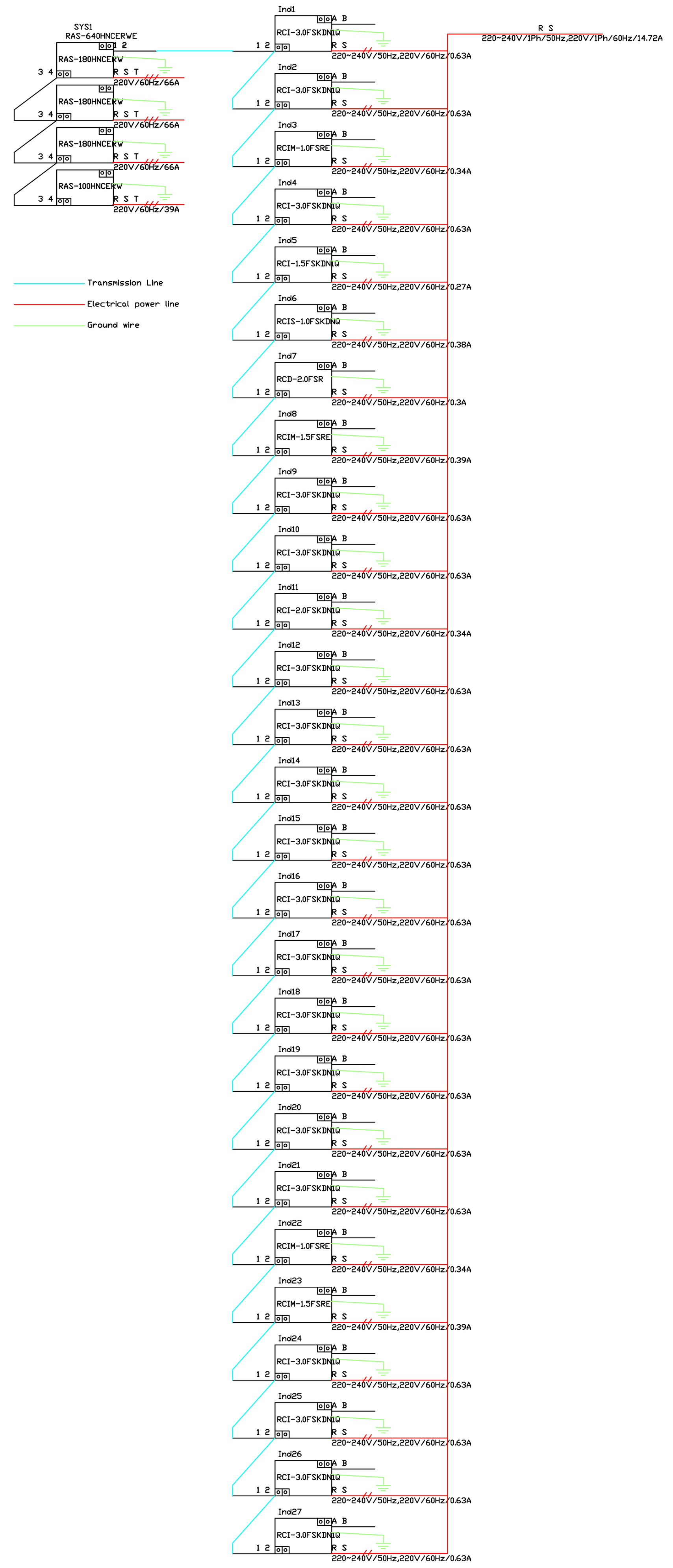
Data: 12/12/2023

Folha: 09 / 11



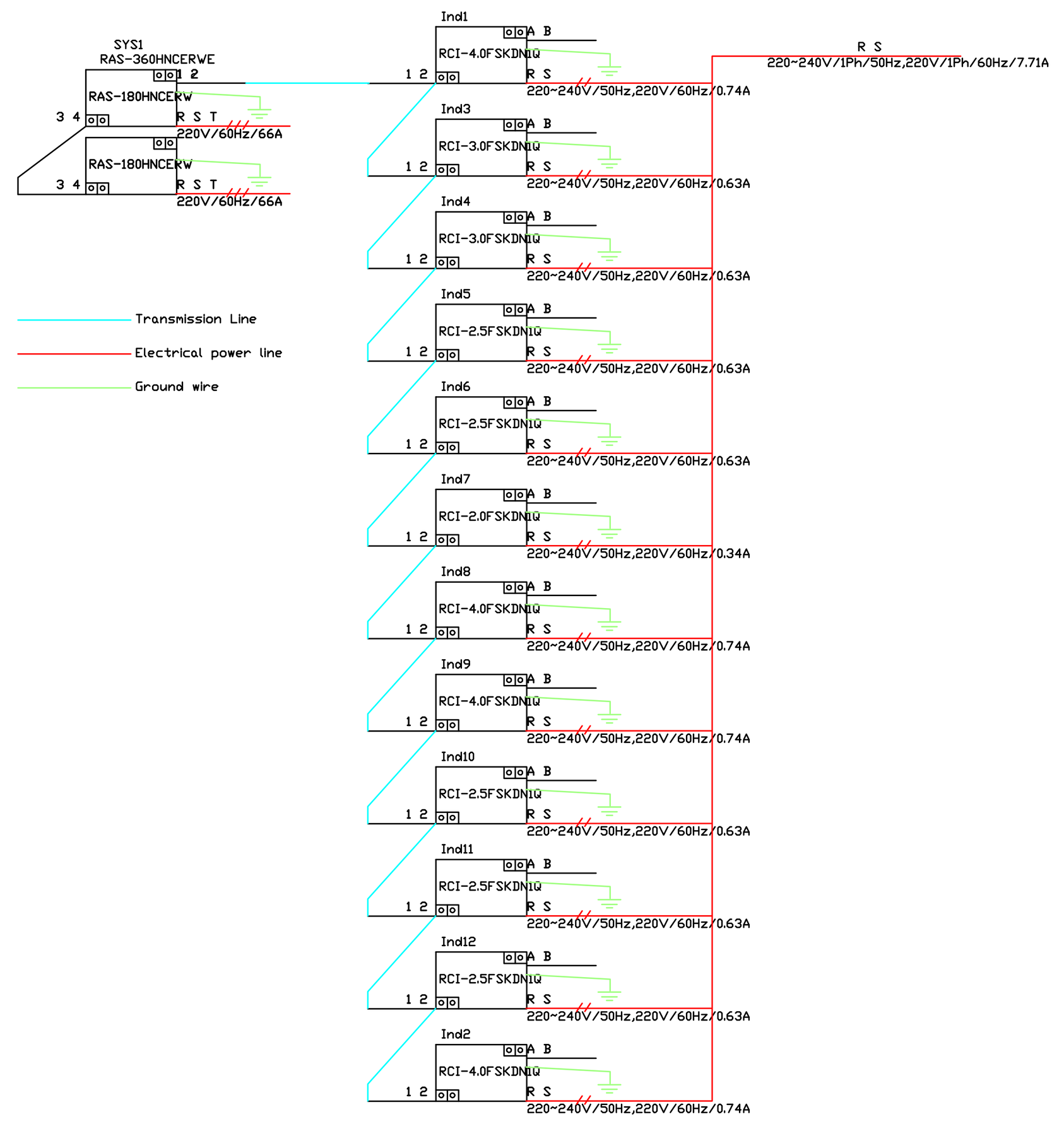
ÁRVORE DE DISTRIBUIÇÃO
DE REFRIGERANTE - 4°PAVIMENTO

s/ ____________________ escala



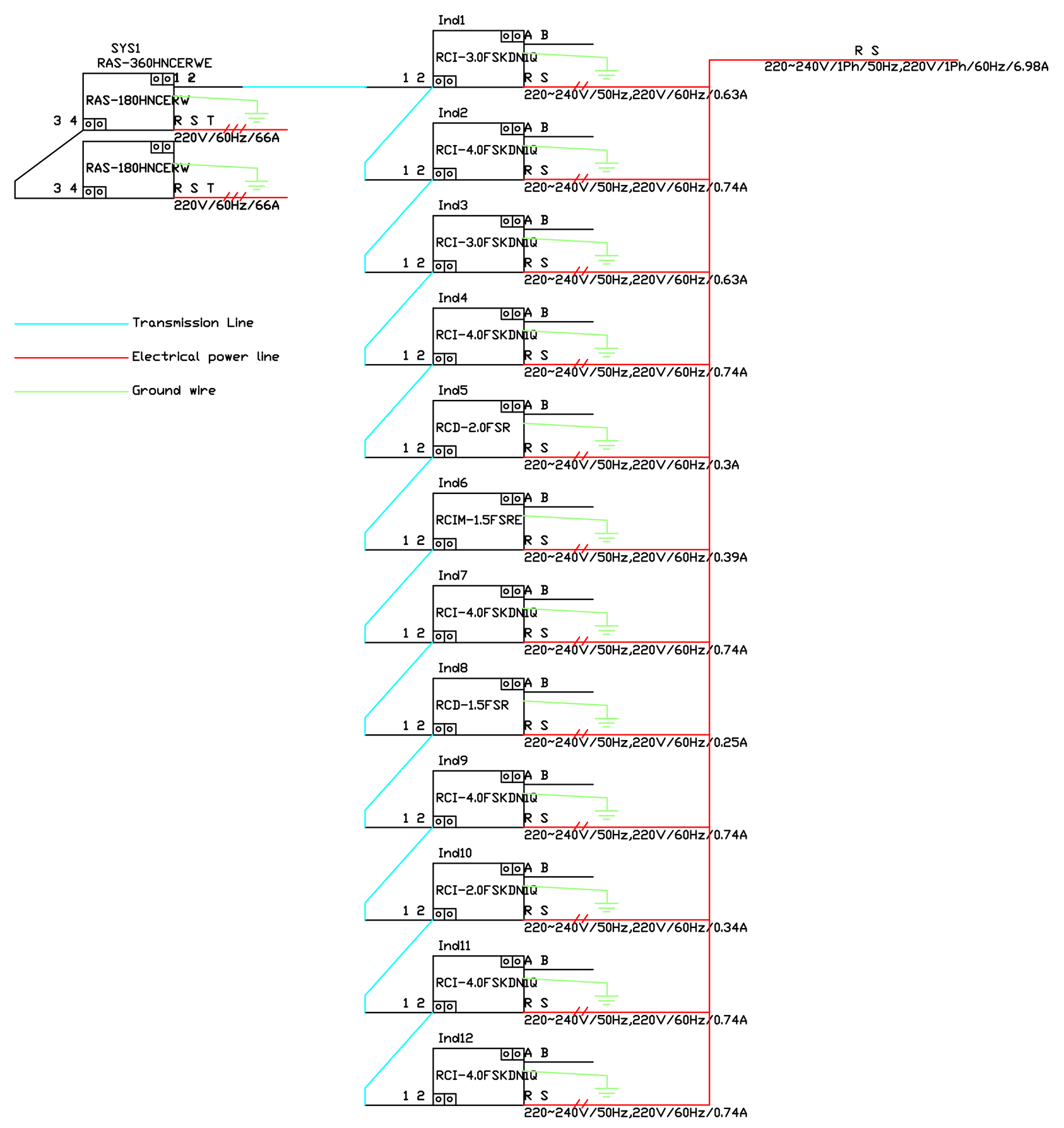
ESQUEMA ELÉTRICO E DE
COMUNICAÇÃO -4° PAVIMENTO

s/ ____________________ escala



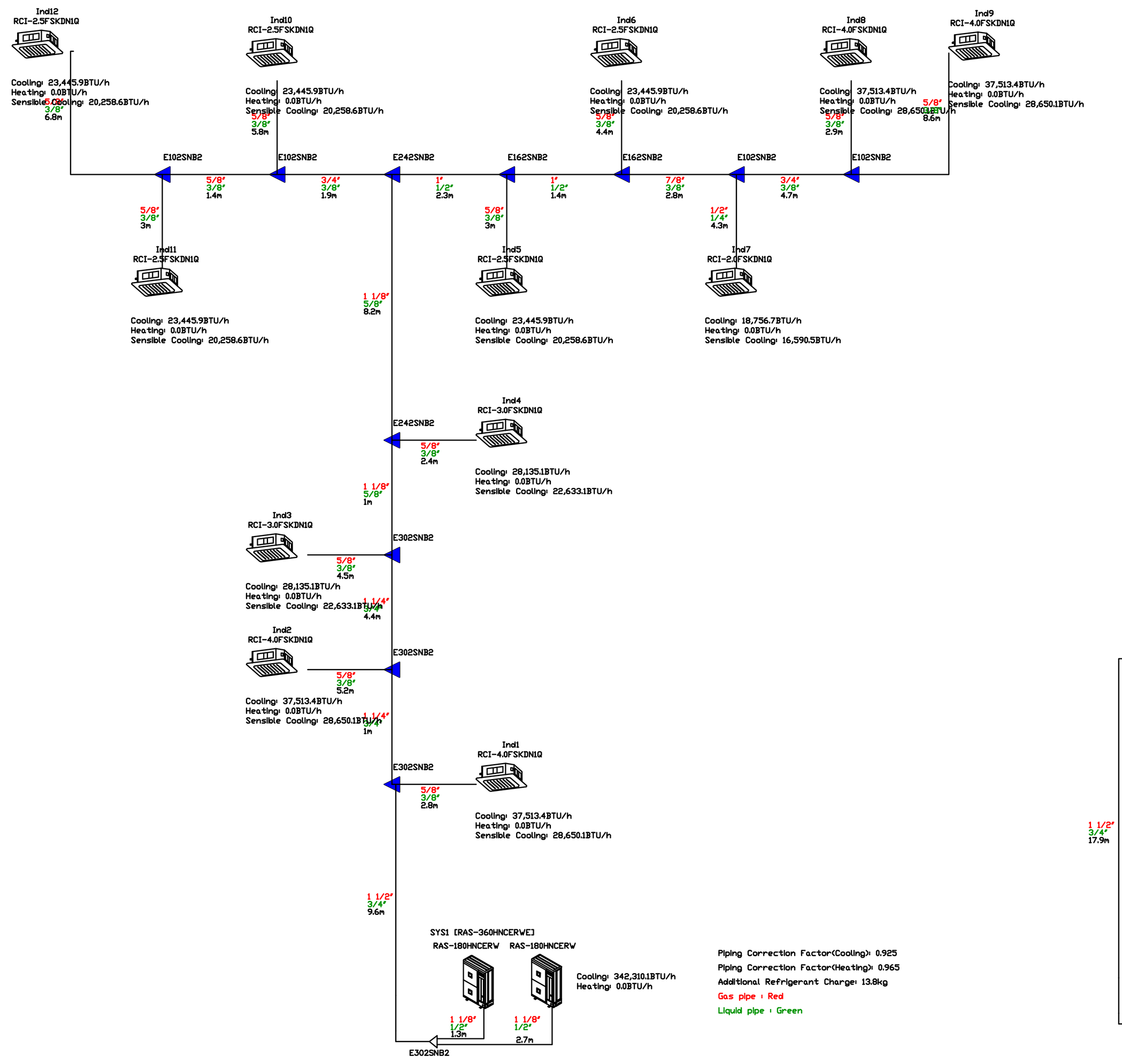
ESQUEMA ELÉTRICO E DE
COMUNICAÇÃO - 5°PAV.-ESQ.

s/ ____________________ escala



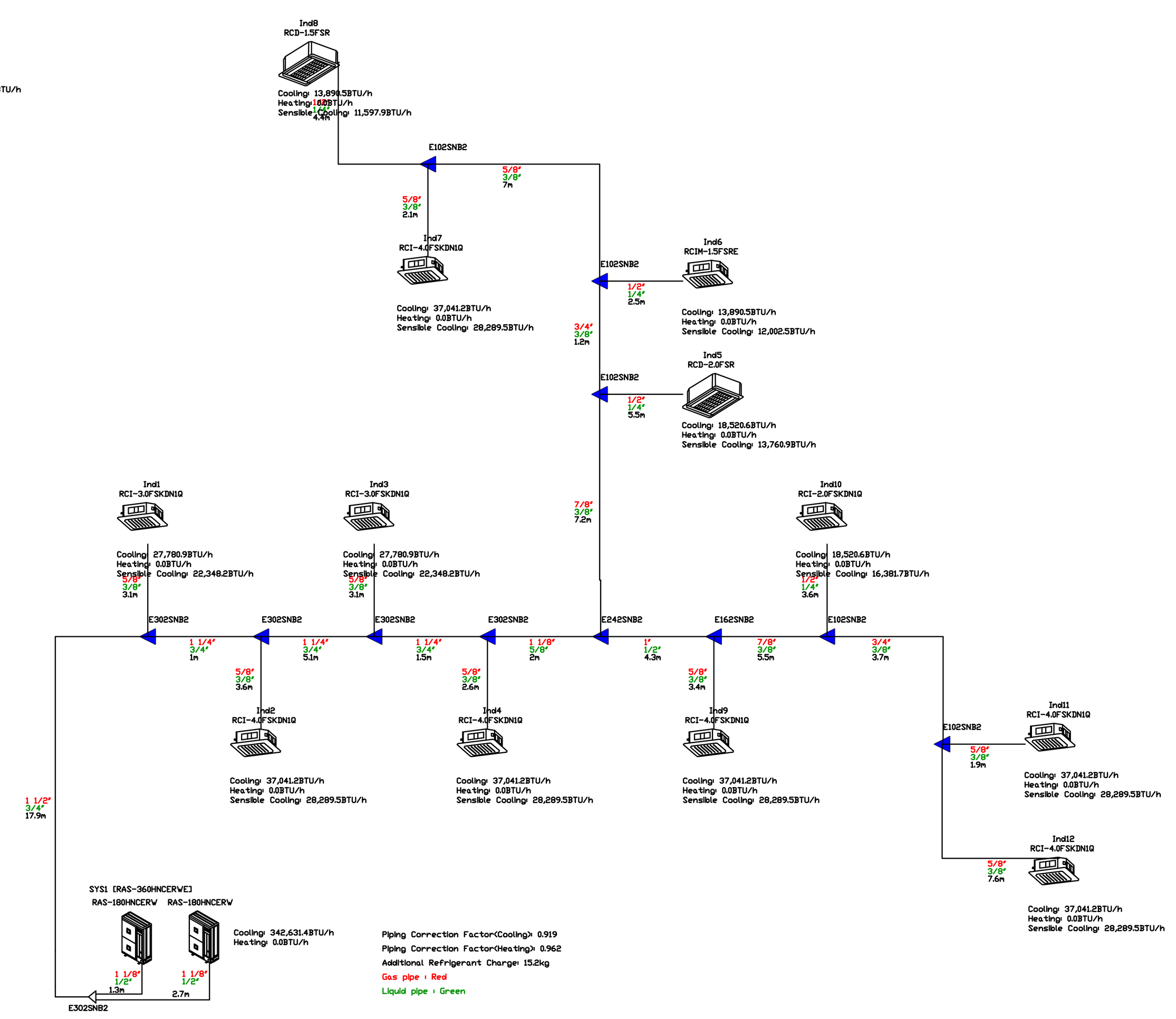
ESQUEMA ELÉTRICO E DE
COMUNICAÇÃO - 5°PAV.-DIR.

s/ ____________________ escala



ÁRVORE DE DISTRIBUIÇÃO
DE REFRIGERANTE - 5°PAV. - ESQ.

s/ ____________________ escala



ÁRVORE DE DISTRIBUIÇÃO
DE REFRIGERANTE - 5°PAV. - DIR.

s/ ____________________ escala

OBSERVAÇÕES:

a) TODAS AS MEDIDAS DEVERÃO SER CONFIRMADAS NA OBRA.
b) EM CASO DE DÚVIDAS, CONSULTE O AUTOR DO PROJETO.
c) AS COTAS PREVALECEM SOBRE A ESCALA DO DESENHO.

ALTERAÇÃO	DATA	REVISÃO	ASSUNTO
AC	05/06/2022	R01	ADEQUAÇÃO DE PROJETO
AC	27/04/2022	R00	PROJETO EXECUTIVO

KOSMOS

PROJETO EXECUTIVO
AR CONDICIONADO

Proprietário: SECRETARIA DE ESTADO DE MEIO AMBIENTE - SEMA/MT
CNPJ:

Local: RUA C, ESQUINA COM A RUA F - CENTRO POLÍTICO E ADMINISTRATIVO
CUIABÁ - MT

Local:

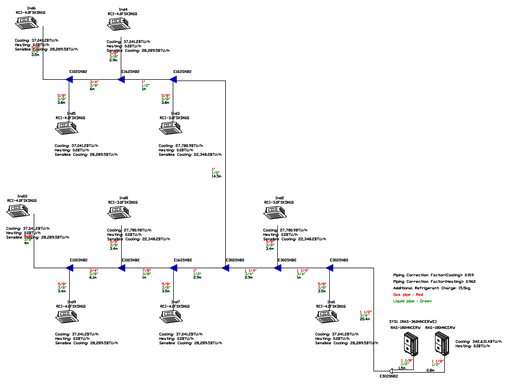
Autor do Projeto:
EDUARDO DOMINGOS SIMÕES
ENGENHEIRO MECÂNICO
CREA 2.124/D-MT
CONFEA 1207421669

Co-autores do Projeto:

Responsável Técnico:

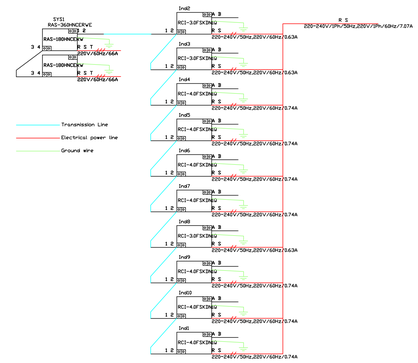
Assunto: ÁRVORE DE DISTRIBUIÇÃO DE REFRIGERANTE
ESQUEMA ELÉTRICO E DE COMUNICAÇÃO - 4° E 5° PAVIMENTOS
AR CONDICIONADO - EXPANSÃO DIRETA - SISTEMA VRF

Escala: INDICADA | Data: 12/12/2023 | Folha: 10 / 11



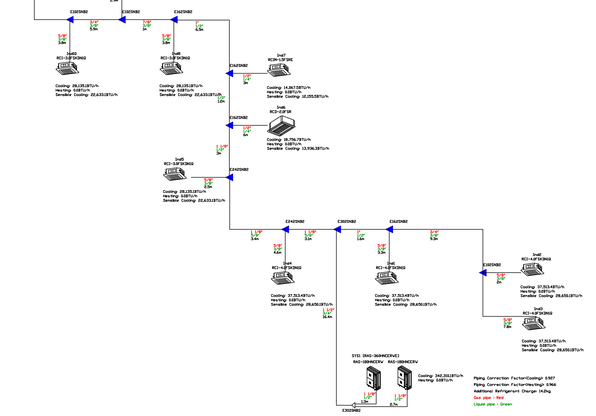
ÁRVORE DE DISTRIBUIÇÃO
DE REFRIGERANTE - 6°PAV. - ESQ.

s/ _____ escala



ESQUEMA ELÉTRICO E DE
COMUNICAÇÃO - 6°PAV.-ESQ.

s/ _____ escala



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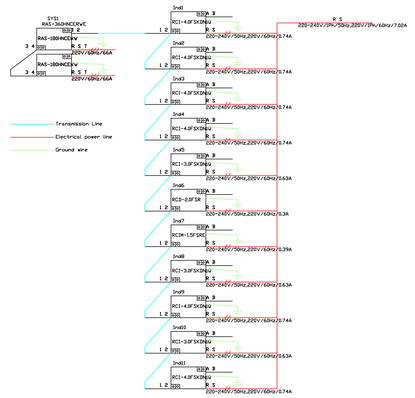
s/ _____ escala



ESQUEMA ELÉTRICO E DE
COMUNICAÇÃO - 6°PAV.-DIR.

s/ _____ escala

OBSERVAÇÕES:

a) TODAS AS MEDIDAS DEVERÃO SER CONFIRMADAS NA OBRA.

b) EM CASO DE DÚVIDAS, CONSULTE O AUTOR DO PROJETO.

c) AS COTAS PREVALECEM SOBRE A ESCALA DO DESENHO.

ALTERAÇÃO	DATA	REVISÃO	ASSUNTO
AC	11/06/2022	R01	PROJETO EXECUTIVO - ACRÉSCIMO DO SEXTO PAVIMENTO

KOSMOS

PROJETO EXECUTIVO
AR CONDICIONADO

Proprietário: SECRETARIA DE ESTADO DE MEIO AMBIENTE - SEMA/MT

CNPJ:

Local: RUA C, ESQUINA COM A RUA F - CENTRO POLÍTICO E ADMINISTRATIVO
CUIABÁ - MT

Autor do Projeto:

EDUARDO DOMINGOS SIMÕES

Co-autores do Projeto:

Responsável Técnico:

Assunto:	Escala:	Data:	Folha:
ÁRVORE DE DISTRIBUIÇÃO DE REFRIGERANTE ESQUEMA ELÉTRICO E DE COMUNICAÇÃO - 6° PAVIMENTO AR CONDICIONADO - EXPANSÃO DIRETA - SISTEMA VRF	INDICADA	12/12/2023	11 / 11

VRF System Selection Report

Project Name :SEMA LAJE - 1° PAVIMENTO

Region :LA_BR

Selection Mode :Cooling

Sales Engineer :

Company:

Address:

Phone No:

Order Date : 10/12/2023

Delivery required date : 10/12/2023

Client Name :

Post Code :

Tel :

Mail :

Update Date: 10/12/2023
Project Revision:
Global Selection Software version: 5.0.2

CONTENTS

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Hitachi makes no warranties regarding the accuracy of the results obtained from the use of this software.
In fact, this software is not able to take into account all the site-specific factors that may influence the proper functioning of the selected device (e.g. piping or wiring lengths on site, third party AHU, geometry of the piping network, operating temperatures…).
It may also contain technical inaccuracies or errors, and improvements or modifications may be made to the software by Hitachi at any time without prior notice.
This software is not intended to replace a thorough evaluation by a professional of the HVAC field.
Accordingly, you are advised not to rely solely on the reports produced by the software to select the appropriate equipment.

Reports

The report is the result of the information transferred and input by the User of the Global VRF Selection Software.
HITACHI assumes no kind of liability regarding the pre-existing data and information in the Software, as well as the data and information input by the User, and in particular in relation to:
1. The static part of the Software including the information required to carry out the calculations corresponding to each project through preset parameters; this information merely includes the parameters for the preparation of the report in line with the model designed by and with the knowledge of Hitachi, without this implying any kind of guarantee for the user regarding the precision and reliability of the results of the report.
2. The dynamic part of the Software, which is the result of the information input by the User in correspondence with the said parameters; the User is on all accounts exclusively liable for the accuracy of the information being input in the Software.
3. The failure to include any legal aspects that may correspond or be required according to current laws.
The Software and the issuing of this report are merely informative tools to assist the User in the planning and implementation of a project.

SYSTEM SELECTION

Outdoor Units

Pictures	Model Identification	Description	Quantity	Components
	RAS-520HNCERWE	Commercial VRF HP, HNCEW	1	RAS-180HNCERW RAS-180HNCERW RAS-160HNCERW -

RAS-520HNCERWE Specifications		
Power supply		220V/3Ph/60Hz
Nominal capacity	Cooling	494,880.5BTU/h
	Heating	539,249.1BTU/h
EER		3.62
COP		4.05
SEER		
SCOP		
Sound power		dB(A)
Dimensions	Height	1,650mm
	Width	3,770mm
	Depth	420mm
Net Weight		693kg

Indoor Units

No Room

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind1	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind2	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind3	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind4	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind5	Two Way Cassette(FSR) RCD-2.0FSR	19,112.6	21,501.7	Air Panel P-AP90DNA			
	Ind6	Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	13,651.9	16,382.3	Air Panel P-AP56NAM			
	Ind7	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind8	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind9	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind10	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind11	Four Way Cassette(FSKDN1Q) RCI-1.5FSKDN1Q	13,651.9	16,382.3	Air Panel D50324A			
	Ind12	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind13	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind14	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind15	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind16	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind17	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind18	Four Way Cassette(FSKDN1Q) RCI-1.5FSKDN1Q	13,651.9	16,382.3	Air Panel D50324A			
	Ind19	Four Way Cassette(FSKDN1Q) RCI-1.0FSKDN1Q	9,556.3	10,921.5	Air Panel D50324A			
	Ind20	Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	9,556.3	10,921.5	Air Panel P-AP56NAM			
	Ind21	Two Way Cassette(FSR) RCD-1.0FSR	9,556.3	10,921.5	Air Panel P-AP90DNA			
	Ind22	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind23	Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	9,556.3	10,921.5	Air Panel P-AP56NAM			
	Ind24	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind25	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			

SYSTEM DESIGN

SYS1

Working Condition	Outdoor (Air)	Indoor (Air)
Cooling	**35.0 °C DB**	**27.0 °C DB** 19.6 °C WB (50% RH)
Heating	**7.0 °C DB** 3.1 °C WB (51% RH)	**20.0 °C DB**

Note:

- *Actual capacity takes into account all correction factors, including defrosting in heating mode.*
- *Each Indoor unit's temperature condition might be different. Software uses minimum wet bulb temperature of indoor for system cooling process and uses maximum dry bulb temperature of indoor for system heating process.*

Outdoor Units of the system

Outdoor Unit (SYS1)		Connect. Rate (%)		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)		
Ref + Description	Ident.	Actual	Max	Nominal	Actual	Required	Nominal	Actual	Required
Commercial VRF HP, HNCEW RAS-520HNCERWE		104	110	-	500,284.0	-	-	0.0	-
Total				***-***	***500284***	***-***	***-***	***0***	***-***

Indoor Units of the system

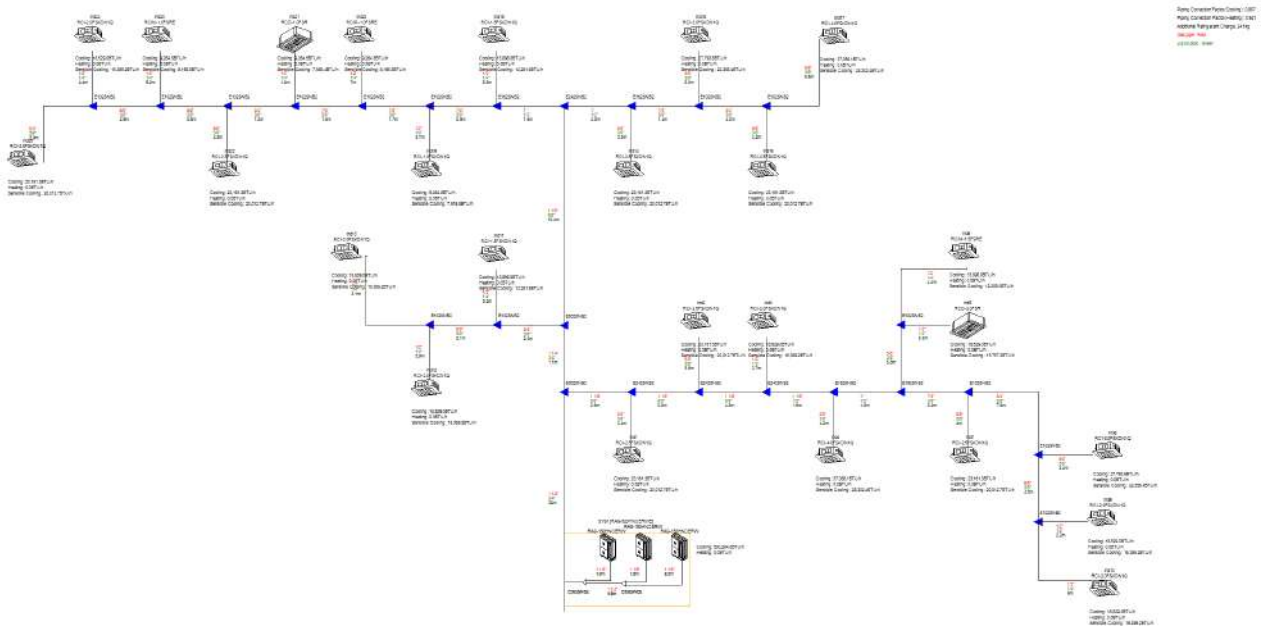
Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m³/h	Actual	Sensible	Required	Actual	Required
Total					***500,284.0***	***422,331.5***	***0.0***	***0.0***	***0.0***
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind1	36	High2	1,620.0	23,161.3	20,012.7	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind2	36	High2	1,620.0	23,161.3	20,012.7	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind3	32	High2	1,320.0	18,529.0	16,389.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind4	43	High2	2,220.0	37,058.1	28,302.4	0.0	0.0	0.0
Two Way Cassette(FSR) RCD-2.0FSR	Ind5	36	High2	990.0	18,529.0	13,767.2	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	Ind6	37	High2	780.0	13,896.8	12,008.0	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind7	36	High2	1,620.0	23,161.3	20,012.7	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind8	36	High2	1,620.0	27,793.6	22,358.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind9	32	High2	1,320.0	18,529.0	16,389.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind10	32	High2	1,320.0	18,529.0	16,389.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-1.5FSKDN1Q	Ind11	31	High2	1,260.0	13,896.8	12,281.8	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind12	32	High2	1,320.0	18,529.0	16,389.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind13	32	High2	1,320.0	18,529.0	16,389.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind14	36	High2	1,620.0	23,161.3	20,012.7	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind15	36	High2	1,620.0	27,793.6	22,358.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind16	36	High2	1,620.0	23,161.3	20,012.7	0.0	0.0	0.0

Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m^3/h	Actual	Sensible	Required	Actual	Required
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind17	43	High2	2,220.0	37,058.1	28,302.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-1.5FSKDN1Q	Ind18	31	High2	1,260.0	13,896.8	12,281.8	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-1.0FSKDN1Q	Ind19	30	High2	900.0	9,264.5	7,919.8	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	Ind20	34	High2	720.0	9,264.5	8,195.5	0.0	0.0	0.0
Two Way Cassette(FSR) RCD-1.0FSR	Ind21	29	High2	660.0	9,264.5	7,936.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind22	36	High2	1,620.0	23,161.3	20,012.7	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	Ind23	34	High2	720.0	9,264.5	8,195.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind24	32	High2	1,320.0	18,529.0	16,389.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind25	36	High2	1,620.0	23,161.3	20,012.7	0.0	0.0	0.0

PIPING DESIGN

SYS1

Piping Diagram



*In case piping diameter is different from multikit diameter, use field supplied reducers.

SYS1

Piping Rules

Commercial VRF HP, HNCEW RAS-520HNCERWE		Project m	Max m	OK
Length	Total pipe length	221	500	✓
	Maximum piping length (Actual length)	67	120	✓
	Maximum piping length (Equivalent length)	76	150	✓
	Maximum Piping Length between Multi-kit of 1st Branch and Each Indoor Unit	35	90	✓
	Maximum Piping Length between Each Multi-kit and Each Indoor Unit	8	40	✓
	Piping Length between Piping Connection Kit 1 and Each Outdoor Unit	4	10	✓
Height	Height Difference between (O.U. is Upper)	0	110	✓
	Height Difference between (O.U. is Lower)	0	40	✓
	Height Difference between Indoor Units	0	30	✓
IU connectable (Min / **recommended** / Max)		25	1 / **38** / 64	✓
Connected Cap. (Min-Max)		104%	50% - 130%	✓

Refrigerant Load & Pipe size

Commercial VRF HP, HNCEW RAS-520HNCERWE	Refrigerant Type: R410A kg
OU refrigerant load (Charge before shipment)	28.8
Installation Additional refrigerant load (OU + Piping)	24.1
Total	***52.9***

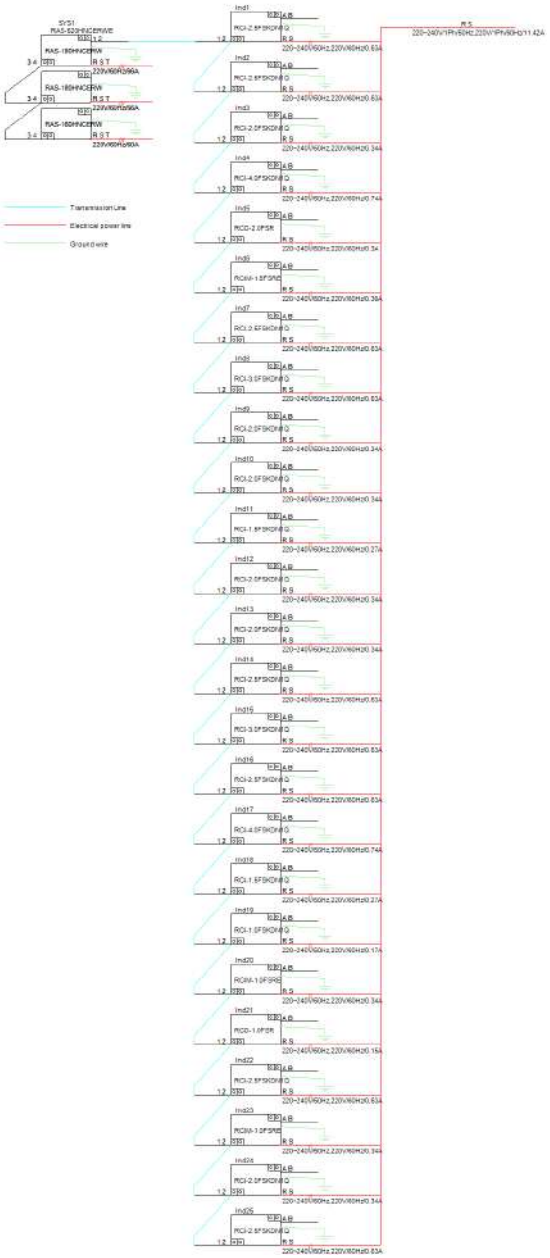
Recommendation

- If pipe size 1" is not available in your country, please use 1"1/8 as replacement.

WIRING DESIGN

SYS1

Wiring Diagram



SYS1

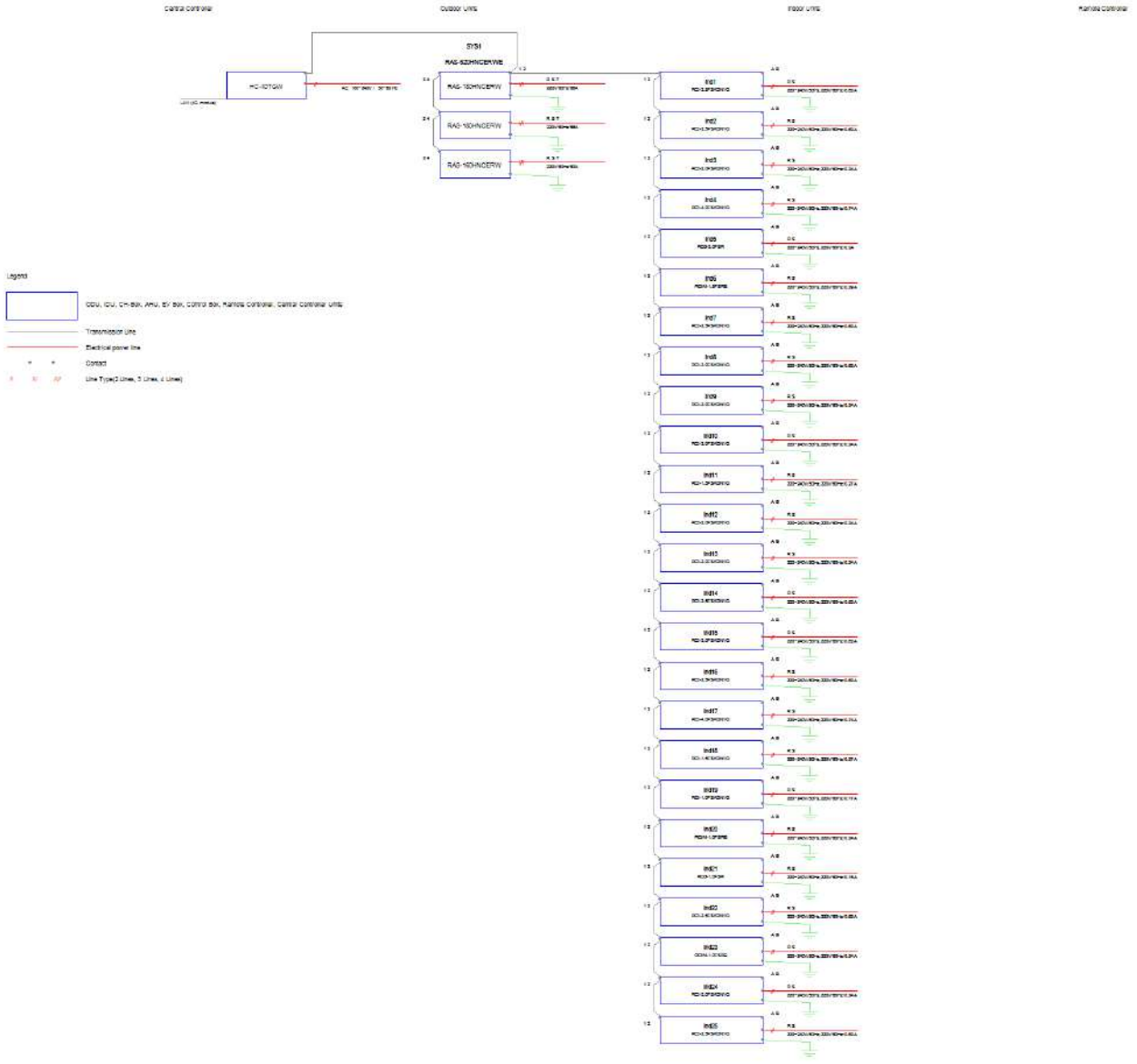
Power Supply

Model		Power supply	Input power kW	Max current A
	RAS-520HNCERWE (RAS-180HNCERW + RAS-180HNCERW + RAS-160HNCERW)	220V/3Ph/60Hz	14.1+14.1+11.9	66+66+60
	RCI-2.5FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.15	0.63
	RCI-2.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.34
	RCI-4.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.18	0.74
	RCD-2.0FSR	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.06	0.3
	RCIM-1.5FSRE	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.39
	RCI-3.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.15	0.63
	RCI-1.5FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.06	0.27
	RCI-1.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.04	0.17
	RCIM-1.0FSRE	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.07	0.34
	RCD-1.0FSR	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.03	0.15

RCS link description

- Minimum recommended section (up to 500 m): 2 x 0.75 mm² connected to earth at one point.
- Cable characteristics: non polar, twisted shielded pair of cable.
- One Remote Control Switch can control up to 16 Indoor Units as a maximum.
- Two Remote Control Switch can be connected in the same unit or unit group.
- The second one is a subsidiary remote control switch.

Central Controller



H-Link2 communication line description

- Minimum recommended section: 2 x 0.75 mm² connected to earth at one point. Shielding must be renewed every 300m.
- Transmitting wires: non polar, twisted shielded pair of cable.
- Maximum H-Link2 communication line length is 1000 m but can be increased until 5.000m using optional relay PSC-5HR.
- Several refrigerant systems can be connected together on a bus with H-LINK2 wiring using an open loop
- Maximum number of Outdoor Units is 64.
- Maximum number of Indoor Units is 160.
- Number of central controller: 1

EQUIPMENT LIST AND INFORMATION

Outdoor Units

Model & Components	System Name	Description	Quantity
RAS-520HNCERWE	SYS1	Commercial VRF HP, HNCEW	1
RAS-180HNCERW	-	*Components*	*2*
RAS-160HNCERW	-	*Components*	*1*

Indoor Units

Model	Description	Quantity
RCI-1.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
RCI-1.5FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	6
RCI-2.5FSKDN1Q	Four Way Cassette(FSKDN1Q)	7
RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
RCIM-1.0FSRE	Mini Four Way Cassette(FSRE)	2
RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	1
RCD-1.0FSR	Two Way Cassette(FSR)	1
RCD-2.0FSR	Two Way Cassette(FSR)	1

Accessories

Model	Description	Quantity
D50324A	Air Panel	20
P-AP90DNA	Air Panel	2
P-AP56NAM	Air Panel	3

Controllers

Model	Description	Quantity
HC-IOTGW	airCloud Gateway	1

Branch Kit

Pipe connection kit

Model	Description	Quantity
E302SNB2	Outdoor units piping connection kit	2

Multikit

Model	Description	Quantity
E302SNB2	Line branch kit	2
E242SNB2	Line branch kit	4
E162SNB2	Line branch kit	4
E102SNB2	Line branch kit	14

CH Box

Field Providing

Piping Materials

Pipe size(mm)	Length m
1/2	78.8
5/8	83.9
3/4	47.5
1/4	65.4
3/8	89.2
7/8	10.8
1	6.2
1 1/8	25.8
1 1/4	2.4
1 1/2	32

Refrigerant

Refrigerant Type	Quantity to be provided kg
R410A	24.1

Appendix –Equipment list for SYS1

Category	Model	Description	Quantity
Outdoor Units	RAS-520HNCERWE	Commercial VRF HP, HNCEW	1
	RAS-180HNCERW	component	2
	RAS-160HNCERW	component	1
Indoor Units	RCI-1.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
	RCI-1.5FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
	RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	6
	RCI-2.5FSKDN1Q	Four Way Cassette(FSKDN1Q)	7
	RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
	RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
	RCIM-1.0FSRE	Mini Four Way Cassette(FSRE)	2
	RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	1
	RCD-1.0FSR	Two Way Cassette(FSR)	1
	RCD-2.0FSR	Two Way Cassette(FSR)	1
Accessory	D50324A	Air Panel	20
	P-AP90DNA	Air Panel	2
	P-AP56NAM	Air Panel	3
Piping Connection Kit	E302SNB2	Outdoor units piping connection kit	2
MultiKit	E302SNB2	Line branch kit	2
	E242SNB2	Line branch kit	4
	E162SNB2	Line branch kit	4
	E102SNB2	Line branch kit	14

Field Providing

Pipe size(mm)	Length
1/2	78.8
5/8	83.9
3/4	47.5
1/4	65.4
3/8	89.2
7/8	10.8
1	6.2

Pipe size(mm)	Length
1 1/8	25.8
1 1/4	2.4
1 1/2	32

Refrigerant Type	Quantity to be provided kg
R410A	24.1

VRF System Selection Report

Project Name :SEMA LAJE - 2° PAVIMENTO

Region :LA_BR

Selection Mode :Cooling

Sales Engineer :

Company:

Address:

Phone No:

Order Date : 10/12/2023

Delivery required date : 10/12/2023

Client Name :

Post Code :

Tel :

Mail :

Update Date: 10/12/2023
Project Revision:
Global Selection Software version: 5.0.2

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3. The failure to include any legal aspects that may correspond or be required according to current laws.
The Software and the issuing of this report are merely informative tools to assist the User in the planning and implementation of a project.

SYSTEM SELECTION

Outdoor Units

Pictures	Model Identification	Description	Quantity	Components
	RAS-540HNCERWE	Commercial VRF HP, HNCEW	1	RAS-180HNCERW RAS-180HNCERW RAS-180HNCERW -

RAS-540HNCERWE Specifications		
Power supply		220V/3Ph/60Hz
Nominal capacity	Cooling	511,945.4BTU/h
	Heating	552,901.0BTU/h
EER		3.54
COP		3.90
SEER		
SCOP		
Sound power		dB(A)
Dimensions	Height	1,650mm
	Width	3,770mm
	Depth	420mm
Net Weight		693kg

Indoor Units

No Room

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind1	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind2	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind3	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind4	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind5	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind6	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind7	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind8	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind9	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind10	Two Way Cassette(FSR) RCD-2.0FSR	19,112.6	21,501.7	Air Panel P-AP90DNA			
	Ind11	Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	13,651.9	16,382.3	Air Panel P-AP56NAM			
	Ind12	Two Way Cassette(FSR) RCD-2.5FSR	24,232.1	29,010.2	Air Panel P-AP90DNA			
	Ind13	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind14	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind15	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind16	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind17	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind18	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind19	Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	9,556.3	10,921.5	Air Panel P-AP56NAM			
	Ind20	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind21	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind22	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind23	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind24	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind25	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind26	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			

SYSTEM DESIGN

SYS1

Working Condition	Outdoor (Air)	Indoor (Air)
Cooling	**35.0 °C DB**	**27.0 °C DB** 19.6 °C WB (50% RH)
Heating	**7.0 °C DB** 3.1 °C WB (51% RH)	**20.0 °C DB**

Note:

- *Actual capacity takes into account all correction factors, including defrosting in heating mode.*
- *Each Indoor unit's temperature condition might be different. Software uses minimum wet bulb temperature of indoor for system cooling process and uses maximum dry bulb temperature of indoor for system heating process.*

Outdoor Units of the system

Outdoor Unit (SYS1)		Connect. Rate (%)		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)		
Ref + Description	Ident.	Actual	Max	Nominal	Actual	Required	Nominal	Actual	Required
Commercial VRF HP, HNCEW RAS-540HNCERWE		104	110	-	516,667.7	-	-	0.0	-
Total				**-**	***516667.7***	**-**	**-**	***0***	**-**

Indoor Units of the system

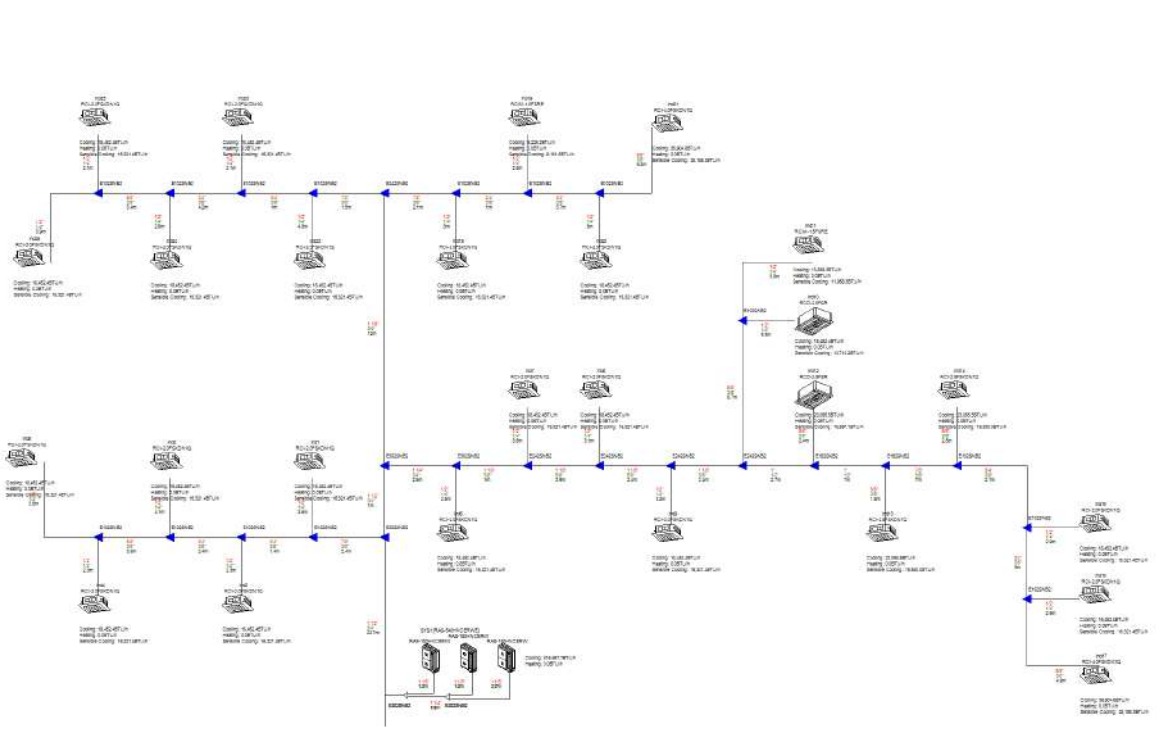
Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m³/h	Actual	Sensible	Required	Actual	Required
Total					***516,667.7***	***440,542.9***	***0.0***	***0.0***	***0.0***
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind1	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind2	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind3	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind4	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind5	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind6	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind7	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind8	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind9	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Two Way Cassette(FSR) RCD-2.0FSR	Ind10	36	High2	990.0	18,452.4	13,710.2	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	Ind11	37	High2	780.0	13,839.3	11,958.3	0.0	0.0	0.0
Two Way Cassette(FSR) RCD-2.5FSR	Ind12	39	High2	1,110.0	23,065.5	16,697.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind13	36	High2	1,620.0	23,065.5	19,930.0	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind14	36	High2	1,620.0	23,065.5	19,930.0	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind15	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind16	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0

Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m^3/h	Actual	Sensible	Required	Actual	Required
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind17	43	High2	2,220.0	36,904.8	28,185.3	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind18	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	Ind19	34	High2	720.0	9,226.2	8,161.6	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind20	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind21	43	High2	2,220.0	36,904.8	28,185.3	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind22	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind23	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind24	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind25	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind26	32	High2	1,320.0	18,452.4	16,321.4	0.0	0.0	0.0

PIPING DESIGN

SYS1

Piping Diagram



*In case piping diameter is different from multikit diameter, use field supplied reducers.

SYS1

Piping Rules

Commercial VRF HP, HNCEW RAS-540HNCERWE		Project m	Max m	OK
Length	Total pipe length	198	500	✓
	Maximum piping length (Actual length)	57	120	✓
	Maximum piping length (Equivalent length)	68	150	✓
	Maximum Piping Length between Multi-kit of 1st Branch and Each Indoor Unit	34	90	✓
	Maximum Piping Length between Each Multi-kit and Each Indoor Unit	9	40	✓
	Piping Length between Piping Connection Kit 1 and Each Outdoor Unit	4	10	✓
Height	Height Difference between (O.U. is Upper)	0	110	✓
	Height Difference between (O.U. is Lower)	0	40	✓
	Height Difference between Indoor Units	0	30	✓
IU connectable (Min / **recommended** / Max)		26	1 / **38** / 64	✓
Connected Cap. (Min-Max)		104%	50% - 130%	✓

Refrigerant Load & Pipe size

Commercial VRF HP, HNCEW RAS-540HNCERWE	Refrigerant Type: R410A kg
OU refrigerant load (Charge before shipment)	28.8
Installation Additional refrigerant load (OU + Piping)	21.4
Total	***50.2***

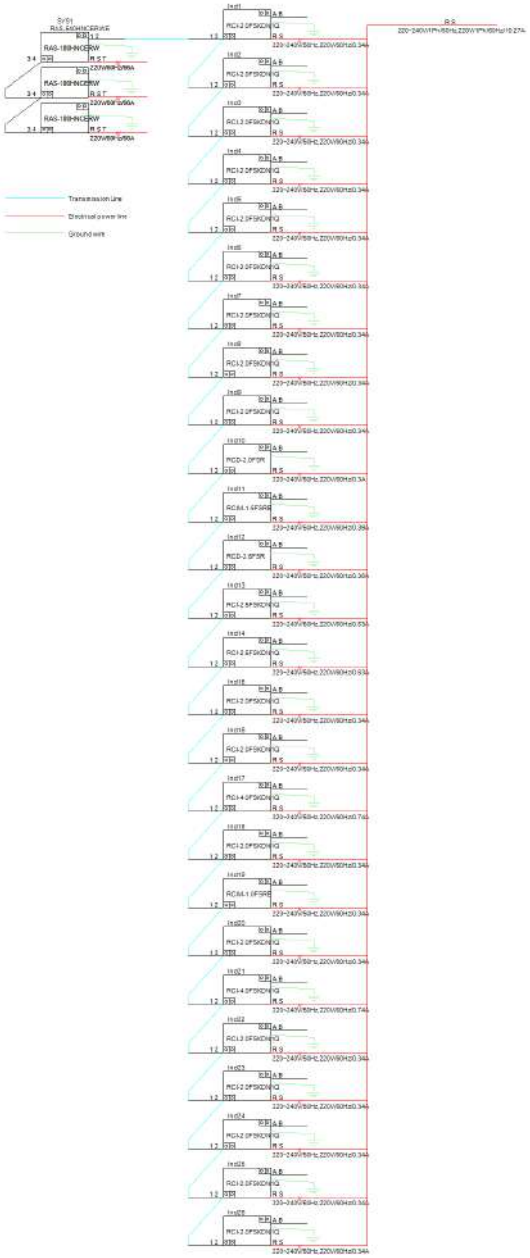
Recommendation

- If pipe size 1" is not available in your country, please use 1"1/8 as replacement.

WIRING DESIGN

SYS1

Wiring Diagram



SYS1

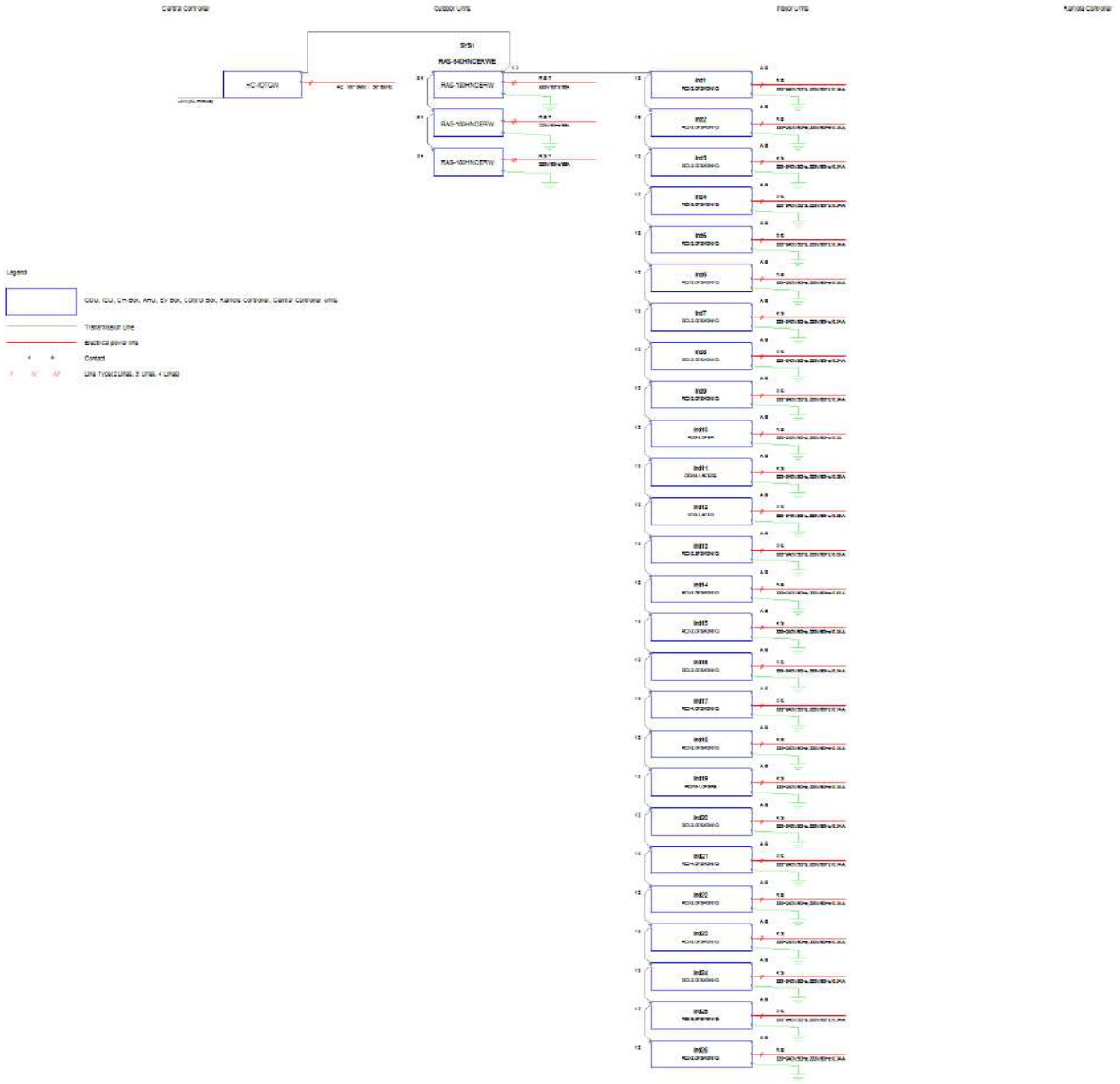
Power Supply

Model		Power supply	Input power kW	Max current A
	RAS-540HNCERWE (RAS-180HNCERW + RAS-180HNCERW + RAS-180HNCERW)	220V/3Ph/60Hz	14.1+14.1+14.1	66+66+66
	RCI-2.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.34
	RCD-2.0FSR	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.06	0.3
	RCIM-1.5FSRE	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.39
	RCD-2.5FSR	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.07	0.38
	RCI-2.5FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.15	0.63
	RCI-4.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.18	0.74
	RCIM-1.0FSRE	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.07	0.34

RCS link description

- Minimum recommended section (up to 500 m): 2 x 0.75 mm² connected to earth at one point.
- Cable characteristics**:** non polar, twisted shielded pair of cable.
- One Remote Control Switch can control up to 16 Indoor Units as a maximum.
- Two Remote Control Switch can be connected in the same unit or unit group.
- The second one is a subsidiary remote control switch.

Central Controller



H-Link2 communication line description

- Minimum recommended section: 2 x 0.75 mm² connected to earth at one point. Shielding must be renewed every 300m.
- Transmitting wires: non polar, twisted shielded pair of cable.
- Maximum H-Link2 communication line length is 1000 m but can be increased until 5.000m using optional relay PSC-5HR.
- Several refrigerant systems can be connected together on a bus with H-LINK2 wiring using an open loop
- Maximum number of Outdoor Units is 64.
- Maximum number of Indoor Units is 160.
- Number of central controller: 1

EQUIPMENT LIST AND INFORMATION

Outdoor Units

Model & Components	System Name	Description	Quantity
RAS-540HNCERWE	SYS1	Commercial VRF HP, HNCEW	1
RAS-180HNCERW	-	*Components*	*3*

Indoor Units

Model	Description	Quantity
RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	18
RCI-2.5FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
RCIM-1.0FSRE	Mini Four Way Cassette(FSRE)	1
RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	1
RCD-2.0FSR	Two Way Cassette(FSR)	1
RCD-2.5FSR	Two Way Cassette(FSR)	1

Accessories

Model	Description	Quantity
D50324A	Air Panel	22
P-AP90DNA	Air Panel	2
P-AP56NAM	Air Panel	2

Controllers

Model	Description	Quantity
HC-IOTGW	airCloud Gateway	1

Branch Kit

Pipe connection kit

Model	Description	Quantity
E302SNB2	Outdoor units piping connection kit	2

Multikit

Model	Description	Quantity
E302SNB2	Line branch kit	3
E102SNB2	Line branch kit	15
E242SNB2	Line branch kit	5
E162SNB2	Line branch kit	2

CH Box

Field Providing

Piping Materials

Pipe size(mm)	Length m
1/2	80.9
5/8	58.2
3/4	46.3
1/4	71.9
3/8	68.3
7/8	13
1	3.7
1 1/8	27
1 1/4	3.8
1 1/2	23.7

Refrigerant

Refrigerant Type	Quantity to be provided kg
R410A	21.4

Appendix –Equipment list for SYS1

Category	Model	Description	Quantity
Outdoor Units	RAS-540HNCERWE	Commercial VRF HP, HNCEW	1
	RAS-180HNCERW	component	3
Indoor Units	RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	18
	RCI-2.5FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
	RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
	RCIM-1.0FSRE	Mini Four Way Cassette(FSRE)	1
	RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	1
	RCD-2.0FSR	Two Way Cassette(FSR)	1
	RCD-2.5FSR	Two Way Cassette(FSR)	1
Accessory	D50324A	Air Panel	22
	P-AP90DNA	Air Panel	2
	P-AP56NAM	Air Panel	2
Piping Connection Kit	E302SNB2	Outdoor units piping connection kit	2
MultiKit	E302SNB2	Line branch kit	3
	E102SNB2	Line branch kit	15
	E242SNB2	Line branch kit	5
	E162SNB2	Line branch kit	2

Field Providing

Pipe size(mm)	Length
1/2	80.9
5/8	58.2
3/4	46.3
1/4	71.9
3/8	68.3
7/8	13
1	3.7
1 1/8	27
1 1/4	3.8
1 1/2	23.7

Refrigerant Type	Quantity to be provided kg
R410A	21.4

VRF System Selection Report

Project Name :SEMA LAJE - 3° PAVIMENTO (PD DUPLO)

Region :LA_BR

Selection Mode :Cooling

Sales Engineer :

Company:

Address:

Phone No:

Order Date : 10/12/2023

Delivery required date : 10/12/2023

Client Name :

Post Code :

Tel :

Mail :

Update Date: 10/12/2023

Project Revision:

Global Selection Software version: 5.0.2

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2. The dynamic part of the Software, which is the result of the information input by the User in correspondence with the said parameters; the User is on all accounts exclusively liable for the accuracy of the information being input in the Software.
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SYSTEM SELECTION

Outdoor Units

Pictures	Model Identification	Description	Quantity	Components
	RAS-140HNCERW	Commercial VRF HP, HNCEW	1	- - - -

RAS-140HNCERW Specifications		
Power supply		220V/3Ph/60Hz
Nominal capacity	Cooling	136,518.8BTU/h
	Heating	153,583.6BTU/h
EER		3.85
COP		4.40
SEER		
SCOP		
Sound power		dB(A)
Dimensions	Height	1,650mm
	Width	1,190mm
	Depth	420mm
Net Weight		223kg

Indoor Units

No Room

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind1	High Static Ducted(HNAUBQ) RPIH-5.0HNAUBQ	48,464.2	55,631.4				
	Ind2	High Static Ducted(HNAUBQ) RPIH-5.0HNAUBQ	48,464.2	55,631.4				
	Ind3	High Static Ducted(HNAUBQ) RPIH-5.0HNAUBQ	48,464.2	55,631.4				

SYSTEM DESIGN

SYS1

Working Condition	Outdoor (Air)	Indoor (Air)
Cooling	**35.0 °C DB**	**27.0 °C DB** 19.6 °C WB (50% RH)
Heating	**7.0 °C DB** 3.1 °C WB (51% RH)	**20.0 °C DB**

Note:

- *Actual capacity takes into account all correction factors, including defrosting in heating mode.*
- *Each Indoor unit's temperature condition might be different. Software uses minimum wet bulb temperature of indoor for system cooling process and uses maximum dry bulb temperature of indoor for system heating process.*

Outdoor Units of the system

Outdoor Unit (SYS1)		Connect. Rate (%)		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)		
Ref + Description	Ident.	Actual	Max	Nominal	Actual	Required	Nominal	Actual	Required
Commercial VRF HP, HNCEW RAS-140HNCERW		107	110	-	136,882.1	-	-	0.0	-
Total				***-***	***136882.1***	***-***	***-***	***0***	***-***

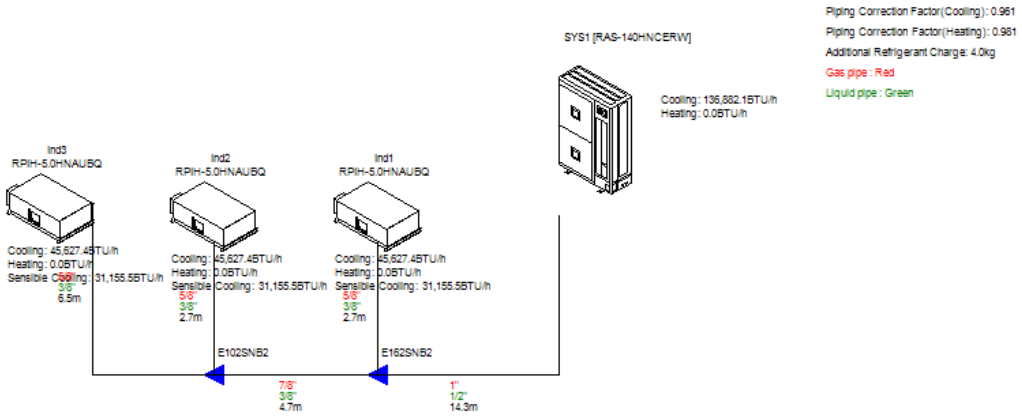
Indoor Units of the system

Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m³/h	Actual	Sensible	Required	Actual	Required
Total					***136,882.1***	***93,466.6***	***0.0***	***0.0***	***0.0***
High Static Ducted(HNAUBQ) RPIH-5.0HNAUBQ	Ind1	46	High	2,460.0	45,627.4	31,155.5	0.0	0.0	0.0
High Static Ducted(HNAUBQ) RPIH-5.0HNAUBQ	Ind2	46	High	2,460.0	45,627.4	31,155.5	0.0	0.0	0.0
High Static Ducted(HNAUBQ) RPIH-5.0HNAUBQ	Ind3	46	High	2,460.0	45,627.4	31,155.5	0.0	0.0	0.0

PIPING DESIGN

SYS1

Piping Diagram



***In case piping diameter is different from multikit diameter, use field supplied reducers.**

SYS1

Piping Rules

Commercial VRF HP, HNCEW RAS-140HNCERW		Project m	Max m	OK
Length	Total pipe length	31	500	✓
	Maximum piping length (Actual length)	26	120	✓
	Maximum piping length (Equivalent length)	29	150	✓
	Maximum Piping Length between Multi-kit of 1st Branch and Each Indoor Unit	11	90	✓
	Maximum Piping Length between Each Multi-kit and Each Indoor Unit	7	40	✓
Height	Height Difference between (O.U. is Upper)	0	110	✓
	Height Difference between (O.U. is Lower)	0	40	✓
	Height Difference between Indoor Units	0	30	✓
IU connectable (Min / **recommended** / Max)		3	1 / **16** / 23	✓
Connected Cap. (Min-Max)		107%	50% - 130%	✓

Refrigerant Load & Pipe size

Commercial VRF HP, HNCEW RAS-140HNCERW	Refrigerant Type: R410A kg
OU refrigerant load (Charge before shipment)	8.3
Installation Additional refrigerant load (OU + Piping)	4.0
Total	***12.3***

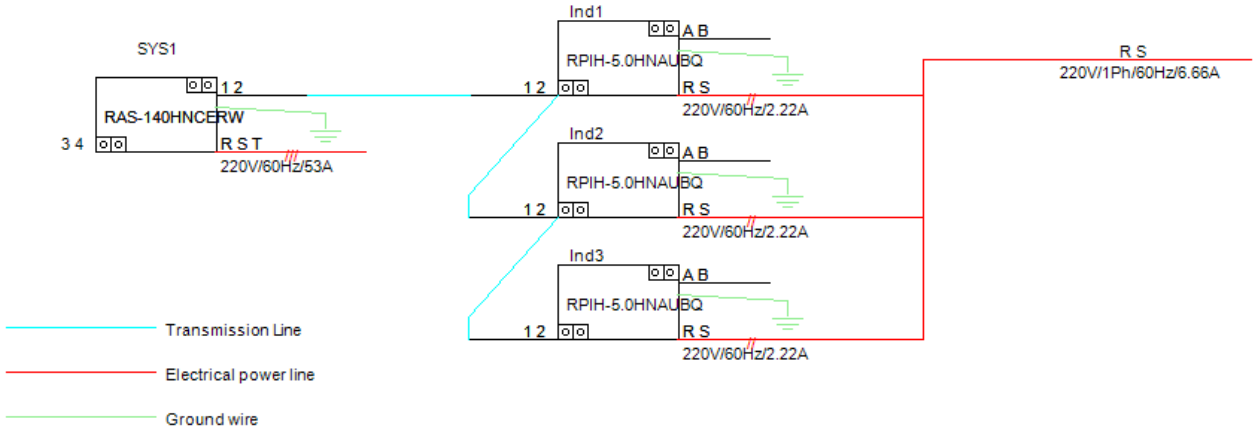
Recommendation

- If pipe size 1" is not available in your country, please use 1"1/8 as replacement.

WIRING DESIGN

SYS1

Wiring Diagram



SYS1

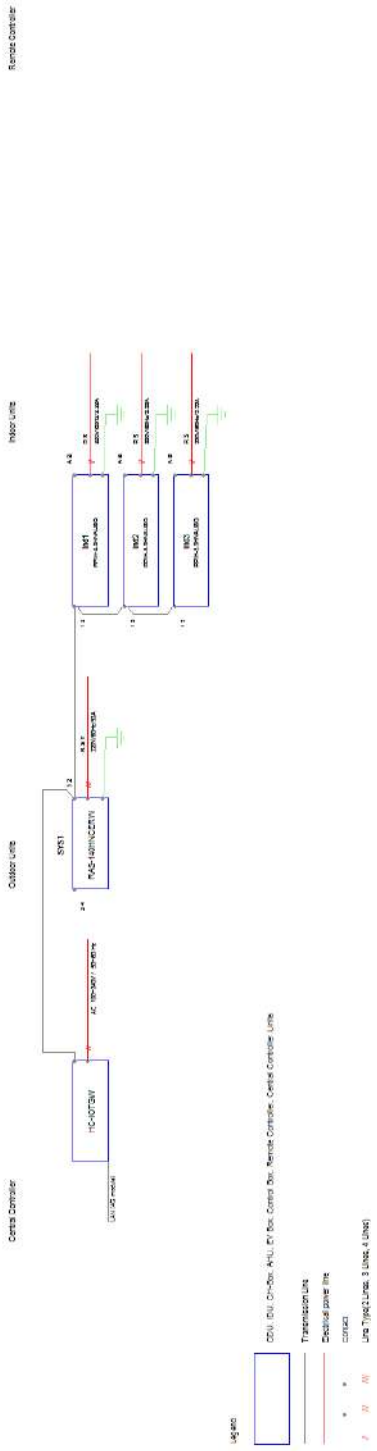
Power Supply

Model		Power supply	Input power kW	Max current A
	RAS-140HNCERW	220V/3Ph/60Hz	10.4	53
	RPIH-5.0HNAUBQ	220V/1Ph/60Hz	0.47	2.22

RCS link description

- Minimum recommended section (up to 500 m): 2 x 0.75 mm² connected to earth at one point.
- Cable characteristics**:** non polar, twisted shielded pair of cable.
- One Remote Control Switch can control up to 16 Indoor Units as a maximum.
- Two Remote Control Switch can be connected in the same unit or unit group.
- The second one is a subsidiary remote control switch.

Central Controller



H-Link2 communication line description

- Minimum recommended section: 2 x 0.75 mm² connected to earth at one point. Shielding must be renewed every 300m.
- Transmitting wires: non polar, twisted shielded pair of cable.
- Maximum H-Link2 communication line length is 1000 m but can be increased until 5.000m using optional relay PSC-5HR.
- Several refrigerant systems can be connected together on a bus with H-LINK2 wiring using an open loop
- Maximum number of Outdoor Units is 64.
- Maximum number of Indoor Units is 160.
- Number of central controller: 1

EQUIPMENT LIST AND INFORMATION

Outdoor Units

Model & Components	System Name	Description	Quantity
RAS-140HNCERW	SYS1	Commercial VRF HP, HNCEW	1

Indoor Units

Model	Description	Quantity
RPIH-5.0HNAUBQ	High Static Ducted(HNAUBQ)	3

Controllers

Model	Description	Quantity
HC-IOTGW	airCloud Gateway	1

Branch Kit

Multikit

Model	Description	Quantity
E162SNB2	Line branch kit	1
E102SNB2	Line branch kit	1

CH Box

Field Providing

Piping Materials

Pipe size(mm)	Length m
1/2	14.3
3/8	16.6
5/8	11.9

Pipe size(mm)	Length m
7/8	4.7
1	14.3

Refrigerant

Refrigerant Type	Quantity to be provided kg
R410A	4.0

Appendix –Equipment list for SYS1

Category	Model	Description	Quantity
Outdoor Units	RAS-140HNCERW	Commercial VRF HP, HNCEW	1
Indoor Units	RPIH-5.0HNAUBQ	High Static Ducted(HNAUBQ)	3
MultiKit	E162SNB2	Line branch kit	1
	E102SNB2	Line branch kit	1

Field Providing

Pipe size(mm)	Length
1/2	14.3
3/8	16.6
5/8	11.9
7/8	4.7
1	14.3

Refrigerant Type	Quantity to be provided kg
R410A	4.0

VRF System Selection Report

Project Name :SEMA LAJE - 3° PAVIMENTO

Region :LA_BR

Selection Mode :Cooling

Sales Engineer :

Company:

Address:

Phone No:

Order Date : 10/12/2023

Delivery required date : 10/12/2023

Client Name :

Post Code :

Tel :

Mail :

Update Date: 10/12/2023

Project Revision:

Global Selection Software version: 5.0.2

CONTENTS

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3. The failure to include any legal aspects that may correspond or be required according to current laws.
The Software and the issuing of this report are merely informative tools to assist the User in the planning and implementation of a project.

SYSTEM SELECTION

Outdoor Units

Pictures	Model Identification	Description	Quantity	Components
	RAS-540HNCERWE	Commercial VRF HP, HNCEW	1	RAS-180HNCERW RAS-180HNCERW RAS-180HNCERW -

RAS-540HNCERWE Specifications		
Power supply		220V/3Ph/60Hz
Nominal capacity	Cooling	511,945.4BTU/h
	Heating	552,901.0BTU/h
EER		3.54
COP		3.90
SEER		
SCOP		
Sound power		dB(A)
Dimensions	Height	1,650mm
	Width	3,770mm
	Depth	420mm
Net Weight		693kg

Indoor Units

No Room

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind1	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind2	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind3	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind4	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind5	Two Way Cassette(FSR) RCD-2.0FSR	19,112.6	21,501.7	Air Panel P-AP90DNA			
	Ind6	Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	13,651.9	16,382.3	Air Panel P-AP56NAM			
	Ind7	Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	9,556.3	10,921.5	Air Panel P-AP56NAM			
	Ind8	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind9	Four Way Cassette(FSKDN1Q) RCI-1.0FSKDN1Q	9,556.3	10,921.5	Air Panel D50324A			

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind10	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind11	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind12	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind13	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind14	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind15	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind16	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind17	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind18	Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	9,556.3	10,921.5	Air Panel P-AP56NAM			
	Ind19	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind20	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind21	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind22	Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	9,556.3	10,921.5	Air Panel P-AP56NAM			
	Ind23	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			

SYSTEM DESIGN

SYS1

Working Condition	Outdoor (Air)	Indoor (Air)
Cooling	**35.0 °C DB**	**27.0 °C DB** 19.6 °C WB (50% RH)
Heating	**7.0 °C DB** 3.1 °C WB (51% RH)	**20.0 °C DB**

Note:

- *Actual capacity takes into account all correction factors, including defrosting in heating mode.*
- *Each Indoor unit's temperature condition might be different. Software uses minimum wet bulb temperature of indoor for system cooling process and uses maximum dry bulb temperature of indoor for system heating process.*

Outdoor Units of the system

Outdoor Unit (SYS1)		Connect. Rate (%)		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)		
Ref + Description	Ident.	Actual	Max	Nominal	Actual	Required	Nominal	Actual	Required
Commercial VRF HP, HNCEW RAS-540HNCERWE		105	110	-	516,975.7	-	-	0.0	-
Total				**-**	***516975.7***	**-**	**-**	***0***	**-**

Indoor Units of the system

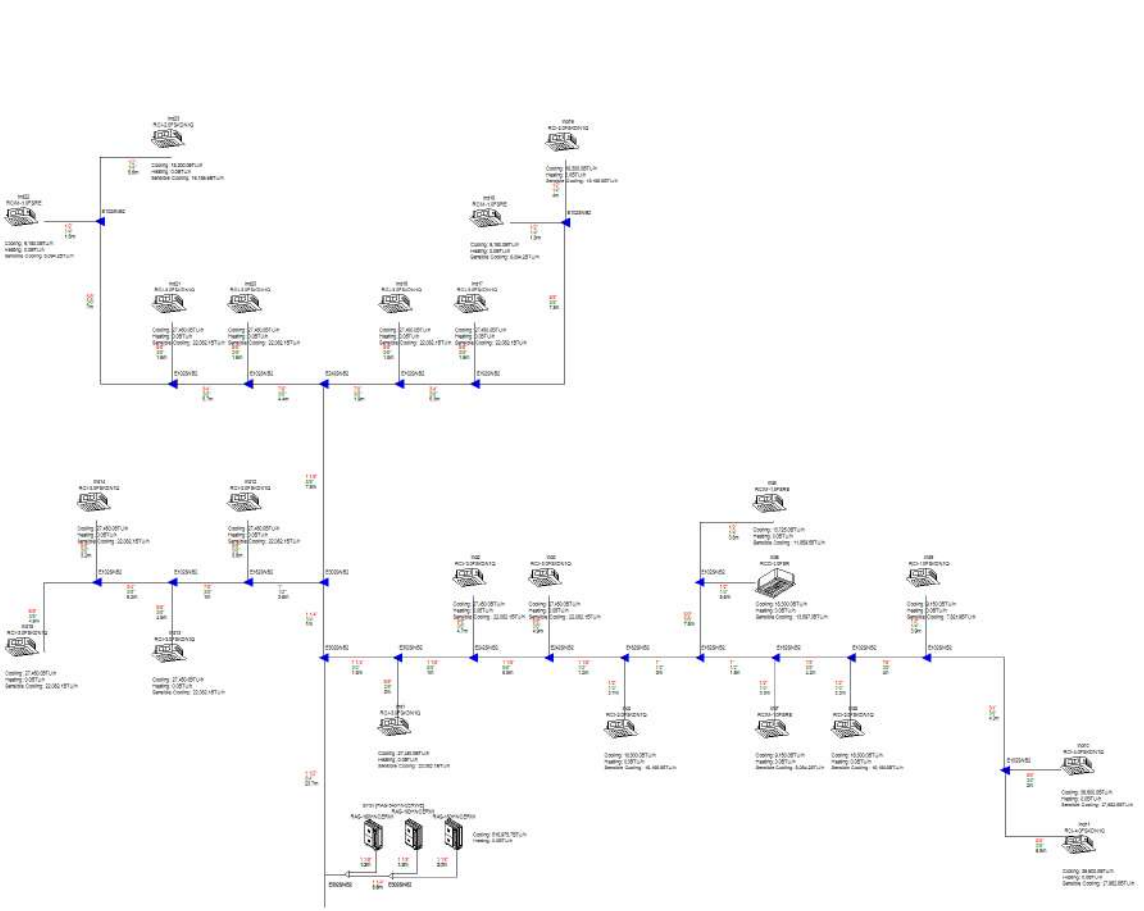
Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m³/h	Actual	Sensible	Required	Actual	Required
Total					***516,975.7***	***421,115.4***	***0.0***	***0.0***	***0.0***
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind1	36	High2	1,620.0	27,450.0	22,082.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind2	36	High2	1,620.0	27,450.0	22,082.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind3	36	High2	1,620.0	27,450.0	22,082.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind4	32	High2	1,320.0	18,300.0	16,186.6	0.0	0.0	0.0
Two Way Cassette(FSR) RCD-2.0FSR	Ind5	36	High2	990.0	18,300.0	13,597.0	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	Ind6	37	High2	780.0	13,725.0	11,859.5	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	Ind7	34	High2	720.0	9,150.0	8,094.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind8	32	High2	1,320.0	18,300.0	16,186.6	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-1.0FSKDN1Q	Ind9	30	High2	900.0	9,150.0	7,821.9	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind10	43	High2	2,220.0	36,600.0	27,952.6	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind11	43	High2	2,220.0	36,600.0	27,952.6	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind12	36	High2	1,620.0	27,450.0	22,082.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind13	36	High2	1,620.0	27,450.0	22,082.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind14	36	High2	1,620.0	27,450.0	22,082.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind15	36	High2	1,620.0	27,450.0	22,082.1	0.0	0.0	0.0

Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m^3/h	Actual	Sensible	Required	Actual	Required
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind16	36	High2	1,620.0	27,450.0	22,082.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind17	36	High2	1,620.0	27,450.0	22,082.1	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	Ind18	34	High2	720.0	9,150.0	8,094.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind19	32	High2	1,320.0	18,300.0	16,186.6	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind20	36	High2	1,620.0	27,450.0	22,082.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind21	36	High2	1,620.0	27,450.0	22,082.1	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	Ind22	34	High2	720.0	9,150.0	8,094.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind23	32	High2	1,320.0	18,300.0	16,186.6	0.0	0.0	0.0

PIPING DESIGN

SYS1

Piping Diagram



*In case piping diameter is different from multikit diameter, use field supplied reducers.

SYS1

Piping Rules

Commercial VRF HP, HNCEW RAS-540HNCERWE		Project m	Max m	OK
Length	Total pipe length	193	500	✓
	Maximum piping length (Actual length)	57	120	✓
	Maximum piping length (Equivalent length)	68	150	✓
	Maximum Piping Length between Multi-kit of 1st Branch and Each Indoor Unit	33	90	✓
	Maximum Piping Length between Each Multi-kit and Each Indoor Unit	7	40	✓
	Piping Length between Piping Connection Kit 1 and Each Outdoor Unit	4	10	✓
Height	Height Difference between (O.U. is Upper)	0	110	✓
	Height Difference between (O.U. is Lower)	0	40	✓
	Height Difference between Indoor Units	0	30	✓
IU connectable (Min / **recommended** / Max)		23	1 / **38** / 64	✓
Connected Cap. (Min-Max)		105%	50% - 130%	✓

Refrigerant Load & Pipe size

Commercial VRF HP, HNCEW RAS-540HNCERWE	Refrigerant Type: R410A kg
OU refrigerant load (Charge before shipment)	28.8
Installation Additional refrigerant load (OU + Piping)	21.8
Total	***50.6***

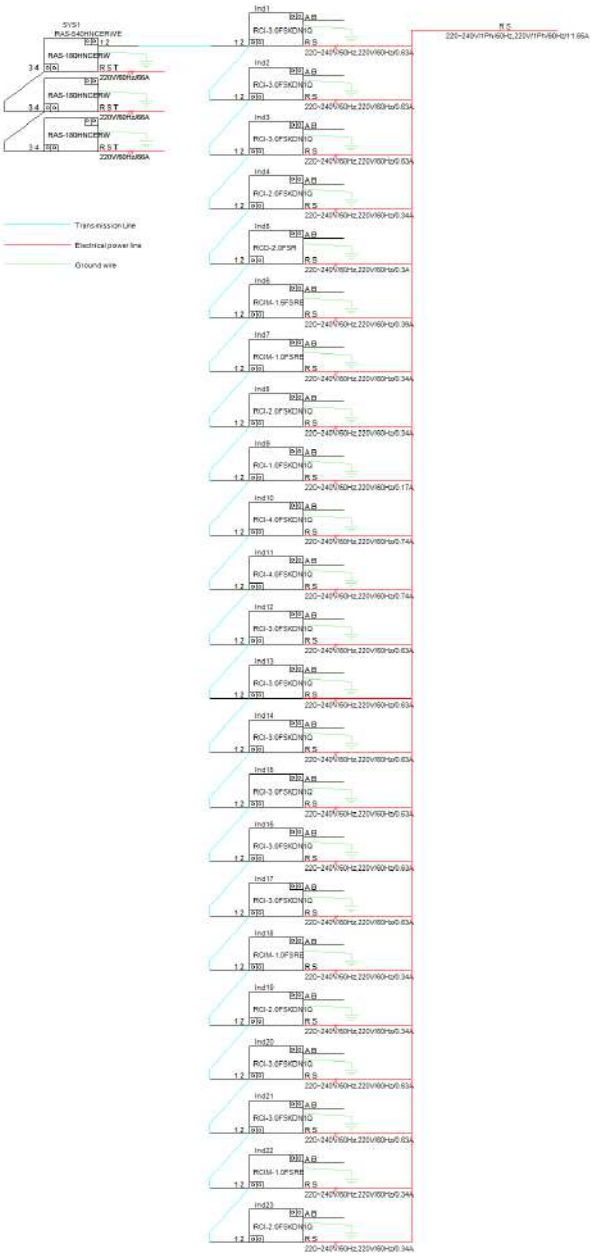
Recommendation

- If pipe size 1" is not available in your country, please use 1"1/8 as replacement.

WIRING DESIGN

SYS1

Wiring Diagram



SYS1

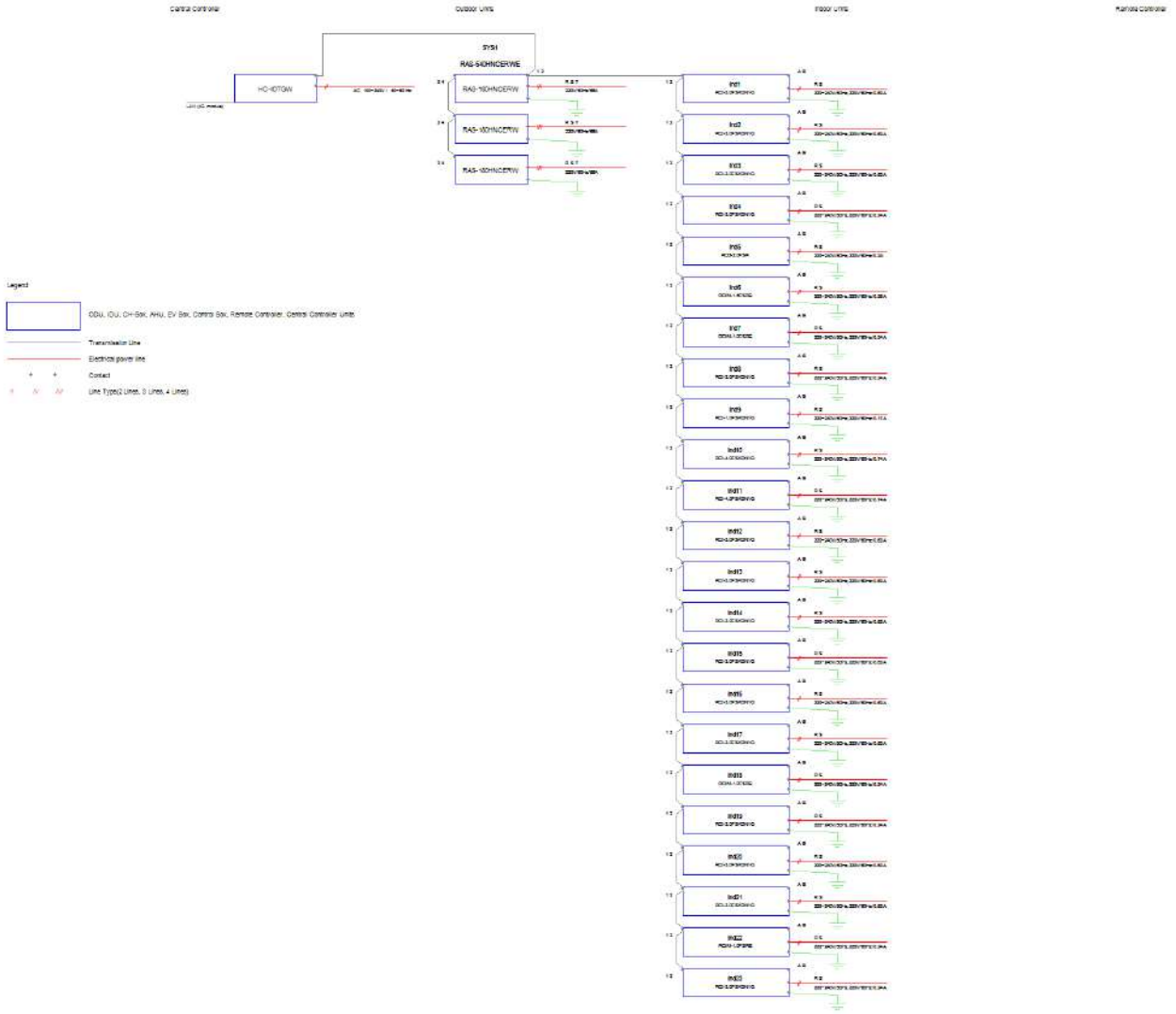
Power Supply

Model		Power supply	Input power kW	Max current A
	RAS-540HNCERWE (RAS-180HNCERW + RAS-180HNCERW + RAS-180HNCERW)	220V/3Ph/60Hz	14.1+14.1+14.1	66+66+66
	RCI-3.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.15	0.63
	RCI-2.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.34
	RCD-2.0FSR	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.06	0.3
	RCIM-1.5FSRE	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.39
	RCIM-1.0FSRE	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.07	0.34
	RCI-1.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.04	0.17
	RCI-4.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.18	0.74

RCS link description

- Minimum recommended section (up to 500 m): 2 x 0.75 mm² connected to earth at one point.
- Cable characteristics**:** non polar, twisted shielded pair of cable.
- One Remote Control Switch can control up to 16 Indoor Units as a maximum.
- Two Remote Control Switch can be connected in the same unit or unit group.
- The second one is a subsidiary remote control switch.

Central Controller



H-Link2 communication line description

- Minimum recommended section: 2 x 0.75 mm² connected to earth at one point. Shielding must be renewed every 300m.
- Transmitting wires: non polar, twisted shielded pair of cable.
- Maximum H-Link2 communication line length is 1000 m but can be increased until 5.000m using optional relay PSC-5HR.
- Several refrigerant systems can be connected together on a bus with H-LINK2 wiring using an open loop
- Maximum number of Outdoor Units is 64.
- Maximum number of Indoor Units is 160.
- Number of central controller: 1

EQUIPMENT LIST AND INFORMATION

Outdoor Units

Model & Components	System Name	Description	Quantity
RAS-540HNCERWE	SYS1	Commercial VRF HP, HNCEW	1
RAS-180HNCERW	-	*Components*	*3*

Indoor Units

Model	Description	Quantity
RCI-1.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	4
RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	11
RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
RCIM-1.0FSRE	Mini Four Way Cassette(FSRE)	3
RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	1
RCD-2.0FSR	Two Way Cassette(FSR)	1

Accessories

Model	Description	Quantity
D50324A	Air Panel	18
P-AP90DNA	Air Panel	1
P-AP56NAM	Air Panel	4

Controllers

Model	Description	Quantity
HC-IOTGW	airCloud Gateway	1

Branch Kit

Pipe connection kit

Model	Description	Quantity
E302SNB2	Outdoor units piping connection kit	2

Multikit

Model	Description	Quantity
E302SNB2	Line branch kit	3
E242SNB2	Line branch kit	3
E162SNB2	Line branch kit	4
E102SNB2	Line branch kit	12

CH Box

Field Providing

Piping Materials

Pipe size(mm)	Length m
1/2	49.1
5/8	80.5
3/4	48.2
1/4	34.5
3/8	102.4
7/8	15.5
1	8.1
1 1/8	20.5
1 1/4	4.1
1 1/2	23.7

Refrigerant

Refrigerant Type	Quantity to be provided kg
R410A	21.8

Appendix –Equipment list for SYS1

Category	Model	Description	Quantity
Outdoor Units	RAS-540HNCERWE	Commercial VRF HP, HNCEW	1
	RAS-180HNCERW	component	3
Indoor Units	RCI-1.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
	RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	4
	RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	11
	RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
	RCIM-1.0FSRE	Mini Four Way Cassette(FSRE)	3
	RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	1
	RCD-2.0FSR	Two Way Cassette(FSR)	1
Accessory	D50324A	Air Panel	18
	P-AP90DNA	Air Panel	1
	P-AP56NAM	Air Panel	4
Piping Connection Kit	E302SNB2	Outdoor units piping connection kit	2
MultiKit	E302SNB2	Line branch kit	3
	E242SNB2	Line branch kit	3
	E162SNB2	Line branch kit	4
	E102SNB2	Line branch kit	12

Field Providing

Pipe size(mm)	Length
1/2	49.1
5/8	80.5
3/4	48.2
1/4	34.5
3/8	102.4
7/8	15.5
1	8.1
1 1/8	20.5
1 1/4	4.1
1 1/2	23.7

Refrigerant Type	Quantity to be provided kg
R410A	21.8

VRF System Selection Report

Project Name :SEMA LAJE - 4° PAVIMENTO

Region :LA_BR

Selection Mode :Cooling

Sales Engineer :

Company:

Address:

Phone No:

Order Date : 10/12/2023

Delivery required date : 10/12/2023

Client Name :

Post Code :

Tel :

Mail :

Update Date: 10/12/2023
Project Revision:
Global Selection Software version: 5.0.2

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3. The failure to include any legal aspects that may correspond or be required according to current laws.
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SYSTEM SELECTION

Outdoor Units

Pictures	Model Identification	Description	Quantity	Components
	RAS-640HNCERWE	Commercial VRF HP, HNCEW	1	RAS-180HNCERW RAS-180HNCERW RAS-180HNCERW RAS-100HNCERW

RAS-640HNCERWE Specifications		
Power supply		220V/3Ph/60Hz
Nominal capacity	Cooling	607,508.5BTU/h
	Heating	660,409.6BTU/h
EER		3.64
COP		3.98
SEER		
SCOP		
Sound power		dB(A)
Dimensions	Height	1,650mm
	Width	4,920mm
	Depth	420mm
Net Weight		893kg

Indoor Units

No Room

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind1	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind2	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind3	Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	9,556.3	10,921.5	Air Panel P-AP56NAM			
	Ind4	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind5	Four Way Cassette(FSKDN1Q) RCI-1.5FSKDN1Q	13,651.9	16,382.3	Air Panel D50324A			
	Ind6	One Way Cassette(FSKDNQ) RCIS-1.0FSKDNQ	9,556.3	10,921.5	Air panel P-N45SNKQAE			
	Ind7	Two Way Cassette(FSR) RCD-2.0FSR	19,112.6	21,501.7	Air Panel P-AP90DNA			
	Ind8	Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	13,651.9	16,382.3	Air Panel P-AP56NAM			
	Ind9	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind10	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind11	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind12	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind13	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind14	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind15	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind16	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind17	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind18	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind19	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind20	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind21	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind22	Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	9,556.3	10,921.5	Air Panel P-AP56NAM			
	Ind23	Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	13,651.9	16,382.3	Air Panel P-AP56NAM			
	Ind24	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind25	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind26	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind27	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			

SYSTEM DESIGN

SYS1

Working Condition	Outdoor (Air)	Indoor (Air)
Cooling	**35.0 °C DB**	**27.0 °C DB** 19.6 °C WB (50% RH)
Heating	**7.0 °C DB** 3.1 °C WB (51% RH)	**20.0 °C DB**

Note:

- *Actual capacity takes into account all correction factors, including defrosting in heating mode.*
- *Each Indoor unit's temperature condition might be different. Software uses minimum wet bulb temperature of indoor for system cooling process and uses maximum dry bulb temperature of indoor for system heating process.*

Outdoor Units of the system

Outdoor Unit (SYS1)		Connect. Rate (%)		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)		
Ref + Description	Ident.	Actual	Max	Nominal	Actual	Required	Nominal	Actual	Required
Commercial VRF HP, HNCEW RAS-640HNCERWE		107	110	-	617,780.5	-	-	0.0	-
Total				***-***	***617780.5***	***-***	***-***	***0***	***-***

Indoor Units of the system

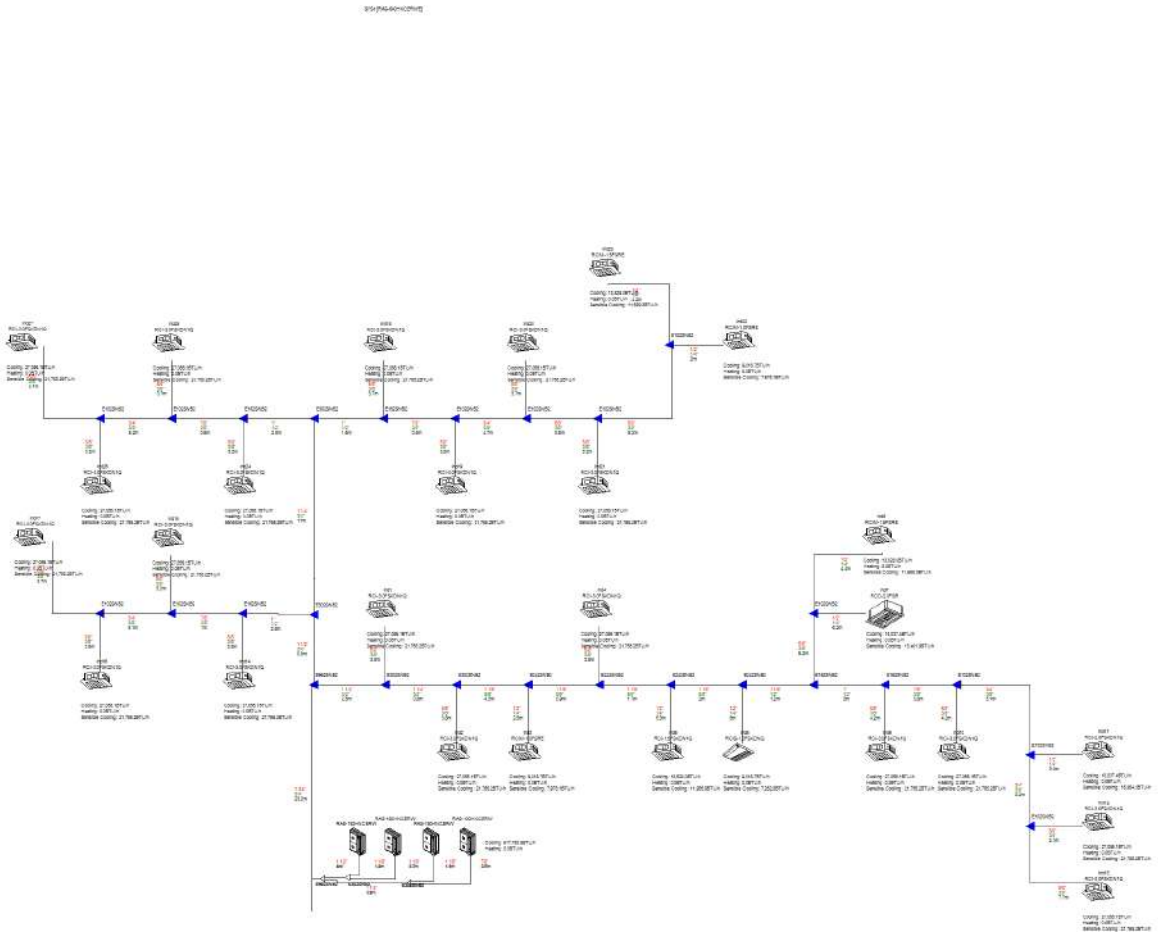
Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m³/h	Actual	Sensible	Required	Actual	Required
Total					***617,780.5***	***501,437.5***	***0.0***	***0.0***	***0.0***
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind1	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind2	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	Ind3	34	High2	720.0	9,018.7	7,978.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind4	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-1.5FSKDN1Q	Ind5	31	High2	1,260.0	13,528.0	11,955.9	0.0	0.0	0.0
One Way Cassette(FSKDNQ) RCIS-1.0FSKDNQ	Ind6	32	High2	396.0	9,018.7	7,252.8	0.0	0.0	0.0
Two Way Cassette(FSR) RCD-2.0FSR	Ind7	36	High2	990.0	18,037.4	13,401.9	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	Ind8	37	High2	780.0	13,528.0	11,689.3	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind9	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind10	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind11	32	High2	1,320.0	18,037.4	15,954.3	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind12	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind13	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind14	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind15	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0

Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m^3/h	Actual	Sensible	Required	Actual	Required
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind16	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind17	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind18	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind19	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind20	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind21	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.0FSRE	Ind22	34	High2	720.0	9,018.7	7,978.1	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	Ind23	37	High2	780.0	13,528.0	11,689.3	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind24	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind25	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind26	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind27	36	High2	1,620.0	27,056.1	21,765.2	0.0	0.0	0.0

PIPING DESIGN

SYS1

Piping Diagram



*In case piping diameter is different from multikit diameter, use field supplied reducers.

SYS1

Piping Rules

Commercial VRF HP, HNCEW RAS-640HNCERWE		Project m	Max m	OK
Length	Total pipe length	220	500	✓
	Maximum piping length (Actual length)	59	120	✓
	Maximum piping length (Equivalent length)	71	150	✓
	Maximum Piping Length between Multi-kit of 1st Branch and Each Indoor Unit	36	90	✓
	Maximum Piping Length between Each Multi-kit and Each Indoor Unit	8	40	✓
	Piping Length between Piping Connection Kit 1 and Each Outdoor Unit	7	10	✓
Height	Height Difference between (O.U. is Upper)	0	90	✓
	Height Difference between (O.U. is Lower)	0	40	✓
	Height Difference between Indoor Units	0	30	✓
IU connectable (Min / **recommended** / Max)		27	1 / **38** / 64	✓
Connected Cap. (Min-Max)		107%	50% - 130%	✓

Refrigerant Load & Pipe size

Commercial VRF HP, HNCEW RAS-640HNCERWE	Refrigerant Type: R410A kg
OU refrigerant load (Charge before shipment)	36.5
Installation Additional refrigerant load (OU + Piping)	26.0
Total	***62.5***

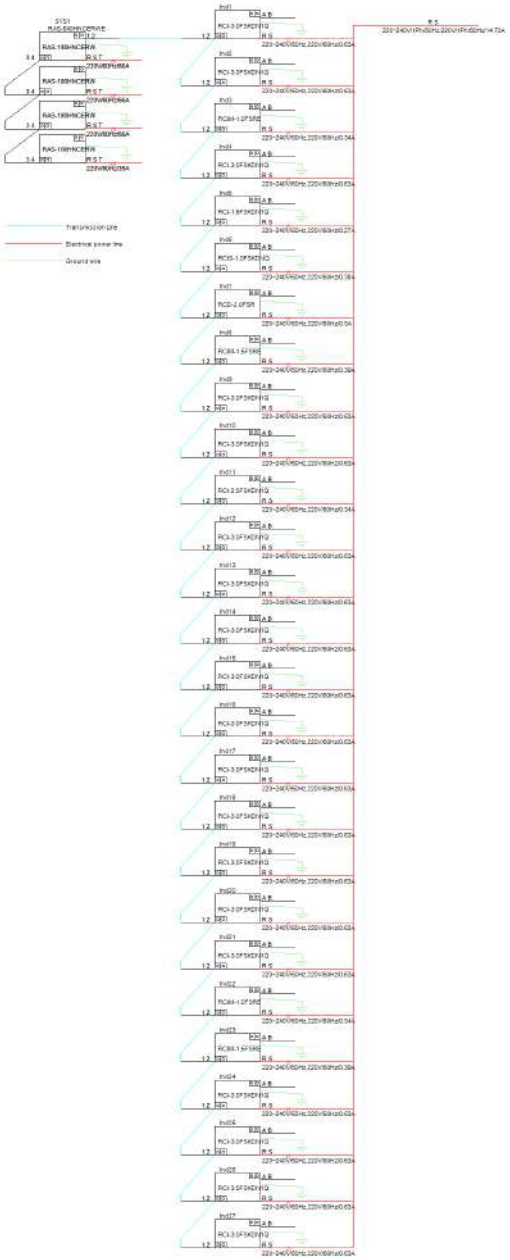
Recommendation

- If pipe size 1" is not available in your country, please use 1"1/8 as replacement.

WIRING DESIGN

SYS1

Wiring Diagram



SYS1

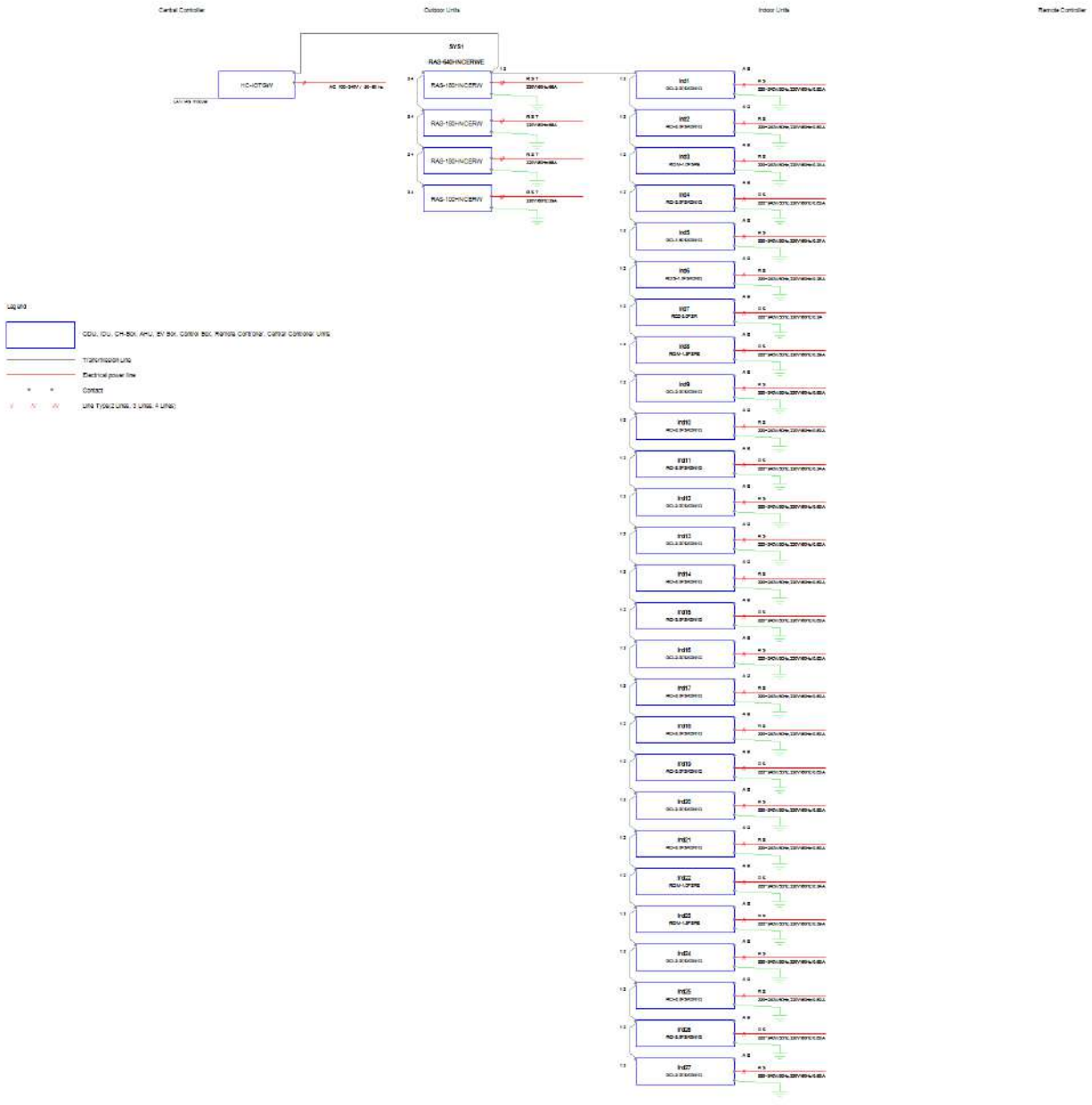
Power Supply

Model		Power supply	Input power kW	Max current A
	RAS-640HNCERWE (RAS-180HNCERW + RAS-180HNCERW + RAS-180HNCERW + RAS-100HNCERW)	220V/3Ph/60Hz	14.1+14.1+14.1+6.6	66+66+66+39
	RCI-3.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.15	0.63
	RCIM-1.0FSRE	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.07	0.34
	RCI-1.5FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.06	0.27
	RCIS-1.0FSKDNQ	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.02	0.38
	RCD-2.0FSR	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.06	0.3
	RCIM-1.5FSRE	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.39
	RCI-2.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.34

RCS link description

- Minimum recommended section (up to 500 m): 2 x 0.75 mm² connected to earth at one point.
- Cable characteristics**:** non polar, twisted shielded pair of cable.
- One Remote Control Switch can control up to 16 Indoor Units as a maximum.
- Two Remote Control Switch can be connected in the same unit or unit group.
- The second one is a subsidiary remote control switch.

Central Controller



H-Link2 communication line description

- Minimum recommended section: 2 x 0.75 mm² connected to earth at one point. Shielding must be renewed every 300m.
- Transmitting wires: non polar, twisted shielded pair of cable.
- Maximum H-Link2 communication line length is 1000 m but can be increased until 5.000m using optional relay PSC-5HR.
- Several refrigerant systems can be connected together on a bus with H-LINK2 wiring using an open loop
- Maximum number of Outdoor Units is 64.
- Maximum number of Indoor Units is 160.
- Number of central controller: 1

EQUIPMENT LIST AND INFORMATION

Outdoor Units

Model & Components	System Name	Description	Quantity
RAS-640HNCERWE	SYS1	Commercial VRF HP, HNCEW	1
RAS-180HNCERW	-	*Components*	*3*
RAS-100HNCERW	-	*Components*	*1*

Indoor Units

Model	Description	Quantity
RCI-1.5FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	19
RCIM-1.0FSRE	Mini Four Way Cassette(FSRE)	2
RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	2
RCIS-1.0FSKDNQ	One Way Cassette(FSKDNQ)	1
RCD-2.0FSR	Two Way Cassette(FSR)	1

Accessories

Model	Description	Quantity
P-N45SNKQAE	Air panel	1
D50324A	Air Panel	21
P-AP56NAM	Air Panel	4
P-AP90DNA	Air Panel	1

Controllers

Model	Description	Quantity
HC-IOTGW	airCloud Gateway	1

Branch Kit

Pipe connection kit

Model	Description	Quantity

E962SNB2	Outdoor units piping connection kit	1
E302SNB2	Outdoor units piping connection kit	2

Multikit

Model	Description	Quantity
E962SNB2	Line branch kit	1
E302SNB2	Line branch kit	4
E242SNB2	Line branch kit	4
E162SNB2	Line branch kit	5
E102SNB2	Line branch kit	12

CH Box

Field Providing

Piping Materials

Pipe size(mm)	Length m
1/2	50.9
5/8	92.6
3/4	66.9
1/4	33.9
3/8	116.1
7/8	9.1
1	10.2
1 1/8	15.7
1 1/4	15.6
1 1/2	4.8
1 3/4	23.2

Refrigerant

Refrigerant Type	Quantity to be provided kg
R410A	26.0

Appendix –Equipment list for SYS1

Category	Model	Description	Quantity
Outdoor Units	RAS-640HNCERWE	Commercial VRF HP, HNCEW	1
	RAS-180HNCERW	component	3
	RAS-100HNCERW	component	1
Indoor Units	RCI-1.5FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
	RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
	RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	19
	RCIM-1.0FSRE	Mini Four Way Cassette(FSRE)	2
	RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	2
	RCIS-1.0FSKDNQ	One Way Cassette(FSKDNQ)	1
	RCD-2.0FSR	Two Way Cassette(FSR)	1
Accessory	P-N45SNKQAE	Air panel	1
	D50324A	Air Panel	21
	P-AP56NAM	Air Panel	4
	P-AP90DNA	Air Panel	1
Piping Connection Kit	E962SNB2	Outdoor units piping connection kit	1
	E302SNB2	Outdoor units piping connection kit	2
MultiKit	E962SNB2	Line branch kit	1
	E302SNB2	Line branch kit	4
	E242SNB2	Line branch kit	4
	E162SNB2	Line branch kit	5
	E102SNB2	Line branch kit	12

Field Providing

Pipe size(mm)	Length
1/2	50.9
5/8	92.6
3/4	66.9
1/4	33.9
3/8	116.1
7/8	9.1
1	10.2

Pipe size(mm)	Length
1 1/8	15.7
1 1/4	15.6
1 1/2	4.8
1 3/4	23.2

Refrigerant Type	Quantity to be provided kg
R410A	26.0

VRF System Selection Report

Project Name :SEMA LAJE - 5° PAVIMENTO (ESQ.)

Region :LA_BR

Selection Mode :Cooling

Sales Engineer :

Company:

Address:

Phone No:

Order Date : 10/12/2023

Delivery required date : 10/12/2023

Client Name :

Post Code :

Tel :

Mail :

Update Date: 10/12/2023
Project Revision:
Global Selection Software version: 5.0.2

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2. The dynamic part of the Software, which is the result of the information input by the User in correspondence with the said parameters; the User is on all accounts exclusively liable for the accuracy of the information being input in the Software.
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The Software and the issuing of this report are merely informative tools to assist the User in the planning and implementation of a project.

SYSTEM SELECTION

Outdoor Units

Pictures	Model Identification	Description	Quantity	Components
	RAS-360HNCERWE	Commercial VRF HP, HNCEW	1	RAS-180HNCERW RAS-180HNCERW - -

RAS-360HNCERWE Specifications		
Power supply		220V/3Ph/60Hz
Nominal capacity	Cooling	341,296.9BTU/h
	Heating	368,600.7BTU/h
EER		3.54
COP		3.90
SEER		
SCOP		
Sound power		dB(A)
Dimensions	Height	1,650mm
	Width	2,480mm
	Depth	420mm
Net Weight		462kg

Indoor Units

No Room

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind1	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind3	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind4	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind5	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind6	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind7	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind8	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind9	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind10	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind11	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind12	Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	24,232.1	29,010.2	Air Panel D50324A			
	Ind2	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			

SYSTEM DESIGN

SYS1

Working Condition	Outdoor (Air)	Indoor (Air)
Cooling	**35.0 °C DB**	**27.0 °C DB** 19.6 °C WB (50% RH)
Heating	**7.0 °C DB** 3.1 °C WB (51% RH)	**20.0 °C DB**

Note:

- *Actual capacity takes into account all correction factors, including defrosting in heating mode.*
- *Each Indoor unit's temperature condition might be different. Software uses minimum wet bulb temperature of indoor for system cooling process and uses maximum dry bulb temperature of indoor for system heating process.*

Outdoor Units of the system

Outdoor Unit (SYS1)		Connect. Rate (%)		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)		
Ref + Description	Ident.	Actual	Max	Nominal	Actual	Required	Nominal	Actual	Required
Commercial VRF HP, HNCEW RAS-360HNCERWE		101	110	-	342,310.1	-	-	0.0	-
Total				***-***	***342310.1***	***-***	***-***	***0***	***-***

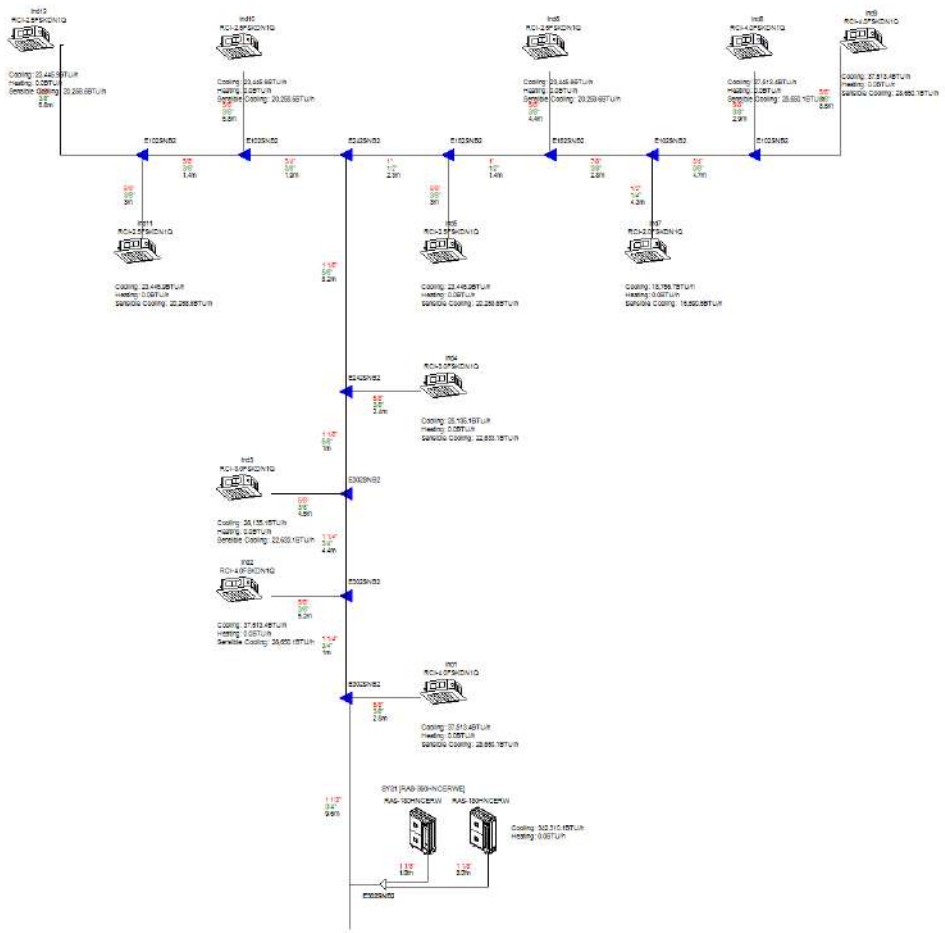
Indoor Units of the system

Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m³/h	Actual	Sensible	Required	Actual	Required
Total					***342,310.1***	***277,750.5***	***0.0***	***0.0***	***0.0***
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind1	43	High2	2,220.0	37,513.4	28,650.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind3	36	High2	1,620.0	28,135.1	22,633.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind4	36	High2	1,620.0	28,135.1	22,633.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind5	36	High2	1,620.0	23,445.9	20,258.6	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind6	36	High2	1,620.0	23,445.9	20,258.6	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind7	32	High2	1,320.0	18,756.7	16,590.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind8	43	High2	2,220.0	37,513.4	28,650.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind9	43	High2	2,220.0	37,513.4	28,650.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind10	36	High2	1,620.0	23,445.9	20,258.6	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind11	36	High2	1,620.0	23,445.9	20,258.6	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.5FSKDN1Q	Ind12	36	High2	1,620.0	23,445.9	20,258.6	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind2	43	High2	2,220.0	37,513.4	28,650.1	0.0	0.0	0.0

PIPING DESIGN

SYS1

Piping Diagram



*In case piping diameter is different from multikit diameter, use field supplied reducers.

SYS1

Piping Rules

Commercial VRF HP, HNCEW RAS-360HNCERWE		Project m	Max m	OK
Length	Total pipe length	96	500	✓
	Maximum piping length (Actual length)	44	120	✓
	Maximum piping length (Equivalent length)	53	150	✓
	Maximum Piping Length between Multi-kit of 1st Branch and Each Indoor Unit	34	90	✓
	Maximum Piping Length between Each Multi-kit and Each Indoor Unit	9	40	✓
	Piping Length between Piping Connection Kit 1 and Each Outdoor Unit	3	10	✓
Height	Height Difference between (O.U. is Upper)	0	110	✓
	Height Difference between (O.U. is Lower)	0	40	✓
	Height Difference between Indoor Units	0	30	✓
IU connectable (Min / **recommended** / Max)		12	1 / **32** / 59	✓
Connected Cap. (Min-Max)		101%	50% - 130%	✓

Refrigerant Load & Pipe size

Commercial VRF HP, HNCEW RAS-360HNCERWE	Refrigerant Type: R410A kg
OU refrigerant load (Charge before shipment)	19.2
Installation Additional refrigerant load (OU + Piping)	13.8
Total	***33.0***

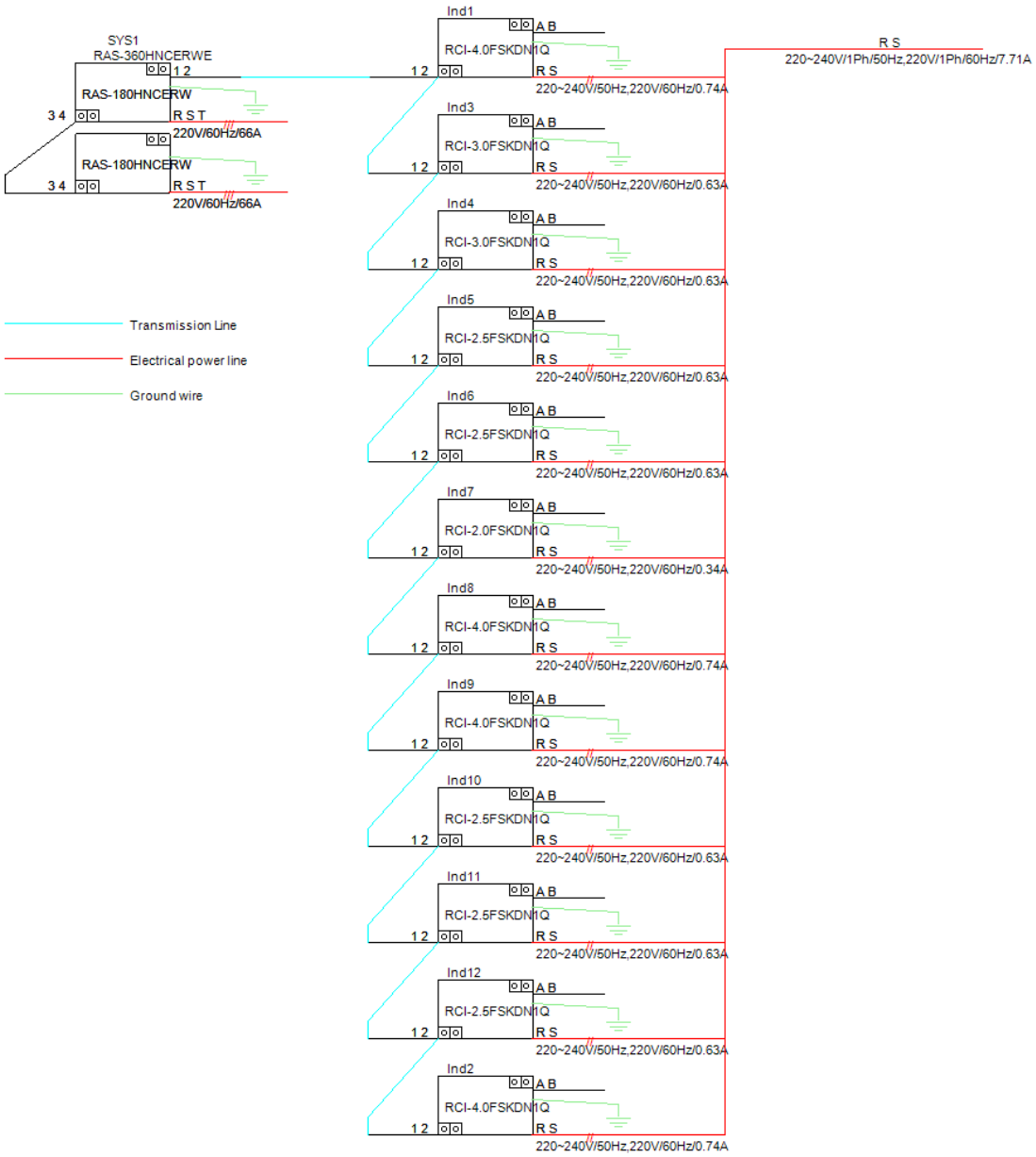
Recommendation

- If pipe size 1" is not available in your country, please use 1"1/8 as replacement.

WIRING DESIGN

SYS1

Wiring Diagram



SYS1

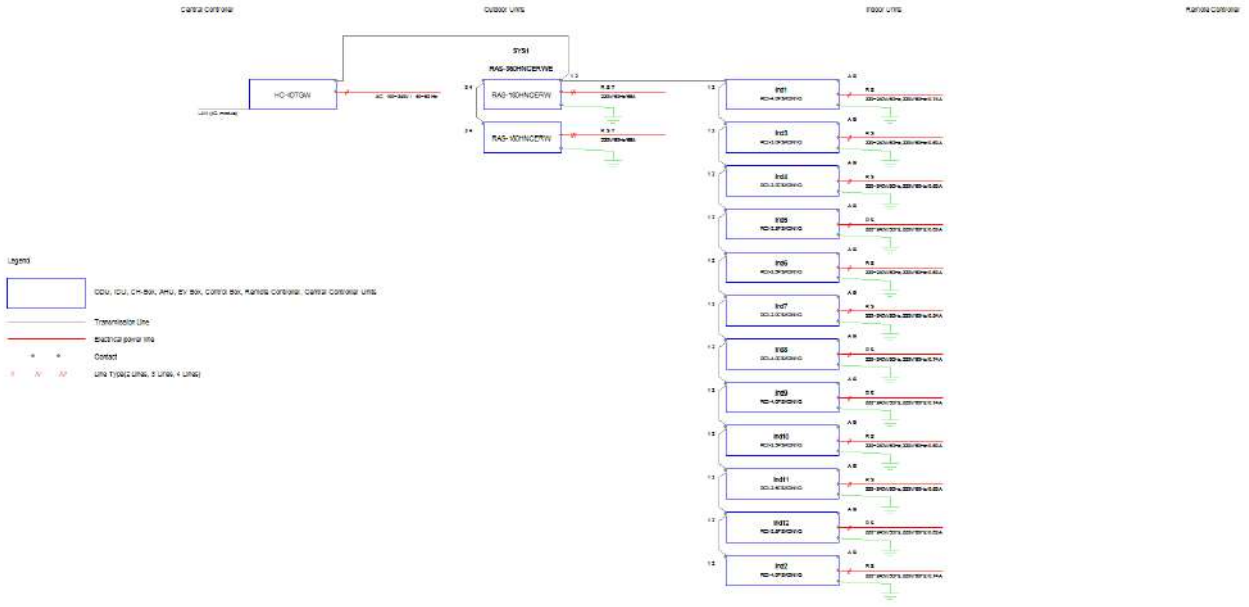
Power Supply

Model		Power supply	Input power kW	Max current A
	RAS-360HNCERWE (RAS-180HNCERW + RAS-180HNCERW)	220V/3Ph/60Hz	14.1+14.1	66+66
	RCI-4.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.18	0.74
	RCI-3.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.15	0.63
	RCI-2.5FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.15	0.63
	RCI-2.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.34

RCS link description

- Minimum recommended section (up to 500 m): 2 x 0.75 mm² connected to earth at one point.
- Cable characteristics**:** non polar, twisted shielded pair of cable.
- One Remote Control Switch can control up to 16 Indoor Units as a maximum.
- Two Remote Control Switch can be connected in the same unit or unit group.
- The second one is a subsidiary remote control switch.

Central Controller



H-Link2 communication line description

- Minimum recommended section: 2 x 0.75 mm² connected to earth at one point. Shielding must be renewed every 300m.
- Transmitting wires: non polar, twisted shielded pair of cable.
- Maximum H-Link2 communication line length is 1000 m but can be increased until 5.000m using optional relay PSC-5HR.
- Several refrigerant systems can be connected together on a bus with H-LINK2 wiring using an open loop
- Maximum number of Outdoor Units is 64.
- Maximum number of Indoor Units is 160.
- Number of central controller: 1

EQUIPMENT LIST AND INFORMATION

Outdoor Units

Model & Components	System Name	Description	Quantity
RAS-360HNCERWE	SYS1	Commercial VRF HP, HNCEW	1
RAS-180HNCERW	-	*Components*	*2*

Indoor Units

Model	Description	Quantity
RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
RCI-2.5FSKDN1Q	Four Way Cassette(FSKDN1Q)	5
RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	4

Accessories

Model	Description	Quantity
D50324A	Air Panel	12

Controllers

Model	Description	Quantity
HC-IOTGW	airCloud Gateway	1

Branch Kit

Pipe connection kit

Model	Description	Quantity
E302SNB2	Outdoor units piping connection kit	1

Multikit

Model	Description	Quantity

Model	Description	Quantity
E302SNB2	Line branch kit	3
E242SNB2	Line branch kit	2
E162SNB2	Line branch kit	2
E102SNB2	Line branch kit	4

CH Box

Field Providing

Piping Materials

Pipe size(mm)	Length m
1/2	12
5/8	60
3/4	21.6
1/4	4.3
3/8	60.2
7/8	2.8
1	3.7
1 1/8	13.2
1 1/4	5.4
1 1/2	9.6

Refrigerant

Refrigerant Type	Quantity to be provided kg
R410A	13.8

Appendix –Equipment list for SYS1

Category	Model	Description	Quantity
Outdoor Units	RAS-360HNCERWE	Commercial VRF HP, HNCEW	1
	RAS-180HNCERW	component	2
Indoor Units	RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
	RCI-2.5FSKDN1Q	Four Way Cassette(FSKDN1Q)	5
	RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
	RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	4
Accessory	D50324A	Air Panel	12
Piping Connection Kit	E302SNB2	Outdoor units piping connection kit	1
MultiKit	E302SNB2	Line branch kit	3
	E242SNB2	Line branch kit	2
	E162SNB2	Line branch kit	2
	E102SNB2	Line branch kit	4

Field Providing

Pipe size(mm)	Length
1/2	12
5/8	60
3/4	21.6
1/4	4.3
3/8	60.2
7/8	2.8
1	3.7
1 1/8	13.2
1 1/4	5.4
1 1/2	9.6

Refrigerant Type	Quantity to be provided kg
R410A	13.8

Refrigerant Type	Quantity to be provided kg

VRF System Selection Report

Project Name :SEMA LAJE - 5° PAVIMENTO (DIR)

Region :LA_BR

Selection Mode :Cooling

Sales Engineer :

Company:

Address:

Phone No:

Order Date : 10/12/2023

Delivery required date : 10/12/2023

Client Name :

Post Code :

Tel :

Mail :

Update Date: 10/12/2023
Project Revision:
Global Selection Software version: 5.0.2

CONTENTS

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The Software and the issuing of this report are merely informative tools to assist the User in the planning and implementation of a project.

SYSTEM SELECTION

Outdoor Units

Pictures	Model Identification	Description	Quantity	Components
	RAS-360HNCERWE	Commercial VRF HP, HNCEW	1	RAS-180HNCERW RAS-180HNCERW - -

RAS-360HNCERWE Specifications		
Power supply		220V/3Ph/60Hz
Nominal capacity	Cooling	341,296.9BTU/h
	Heating	368,600.7BTU/h
EER		3.54
COP		3.90
SEER		
SCOP		
Sound power		dB(A)
Dimensions	Height	1,650mm
	Width	2,480mm
	Depth	420mm
Net Weight		462kg

Indoor Units

No Room

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind1	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind2	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind3	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind4	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind5	Two Way Cassette(FSR) RCD-2.0FSR	19,112.6	21,501.7	Air Panel P-AP90DNA			
	Ind6	Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	13,651.9	16,382.3	Air Panel P-AP56NAM			
	Ind7	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind8	Two Way Cassette(FSR) RCD-1.5FSR	13,651.9	16,382.3	Air Panel P-AP90DNA			
	Ind9	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind10	Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	19,112.6	21,501.7	Air Panel D50324A			
	Ind11	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind12	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			

SYSTEM DESIGN

SYS1

Working Condition	Outdoor (Air)	Indoor (Air)
Cooling	**35.0 °C DB**	**27.0 °C DB** 19.6 °C WB (50% RH)
Heating	**7.0 °C DB** 3.1 °C WB (51% RH)	**20.0 °C DB**

Note:

- *Actual capacity takes into account all correction factors, including defrosting in heating mode.*
- *Each Indoor unit's temperature condition might be different. Software uses minimum wet bulb temperature of indoor for system cooling process and uses maximum dry bulb temperature of indoor for system heating process.*

Outdoor Units of the system

Outdoor Unit (SYS1)		Connect. Rate (%)		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)		
Ref + Description	Ident.	Actual	Max	Nominal	Actual	Required	Nominal	Actual	Required
Commercial VRF HP, HNCEW RAS-360HNCERWE		103	110	-	342,631.4	-	-	0.0	-
Total				***-***	***342631.4***	***-***	***-***	***0***	***-***

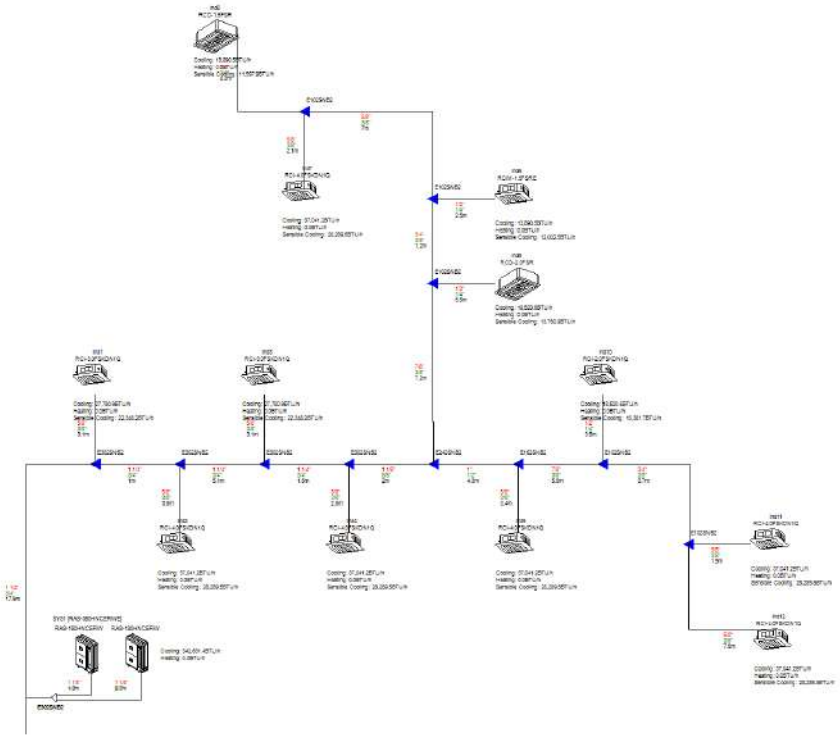
Indoor Units of the system

Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m³/h	Actual	Sensible	Required	Actual	Required
Total					***342,631.4***	***268,176.6***	***0.0***	***0.0***	***0.0***
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind1	36	High2	1,620.0	27,780.9	22,348.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind2	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind3	36	High2	1,620.0	27,780.9	22,348.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind4	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0
Two Way Cassette(FSR) RCD-2.0FSR	Ind5	36	High2	990.0	18,520.6	13,760.9	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	Ind6	37	High2	780.0	13,890.5	12,002.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind7	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0
Two Way Cassette(FSR) RCD-1.5FSR	Ind8	34	High2	900.0	13,890.5	11,597.9	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind9	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-2.0FSKDN1Q	Ind10	32	High2	1,320.0	18,520.6	16,381.7	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind11	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind12	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0

PIPING DESIGN

SYS1

Piping Diagram



*In case piping diameter is different from multikit diameter, use field supplied reducers.

SYS1

Piping Rules

Commercial VRF HP, HNCEW RAS-360HNCERWE		Project m	Max m	OK
Length	Total pipe length	104	500	✓
	Maximum piping length (Actual length)	49	120	✓
	Maximum piping length (Equivalent length)	56	150	✓
	Maximum Piping Length between Multi-kit of 1st Branch and Each Indoor Unit	31	90	✓
	Maximum Piping Length between Each Multi-kit and Each Indoor Unit	8	40	✓
	Piping Length between Piping Connection Kit 1 and Each Outdoor Unit	3	10	✓
Height	Height Difference between (O.U. is Upper)	0	110	✓
	Height Difference between (O.U. is Lower)	0	40	✓
	Height Difference between Indoor Units	0	30	✓
IU connectable (Min / **recommended** / Max)		12	1 / **32** / 59	✓
Connected Cap. (Min-Max)		103%	50% - 130%	✓

Refrigerant Load & Pipe size

Commercial VRF HP, HNCEW RAS-360HNCERWE	Refrigerant Type: R410A kg
OU refrigerant load (Charge before shipment)	19.2
Installation Additional refrigerant load (OU + Piping)	15.2
Total	***34.4***

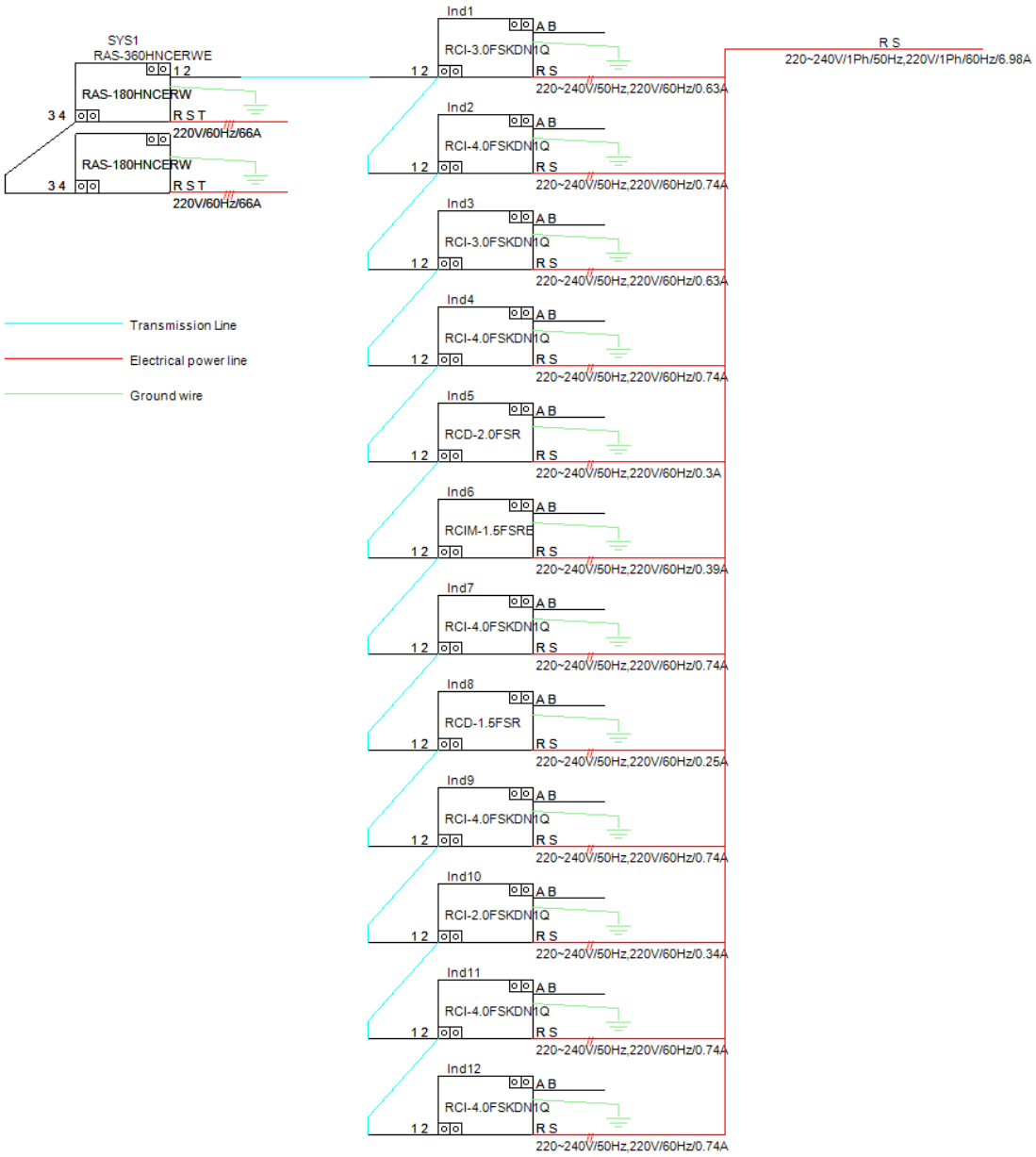
Recommendation

- If pipe size 1" is not available in your country, please use 1"1/8 as replacement.

WIRING DESIGN

SYS1

Wiring Diagram



SYS1

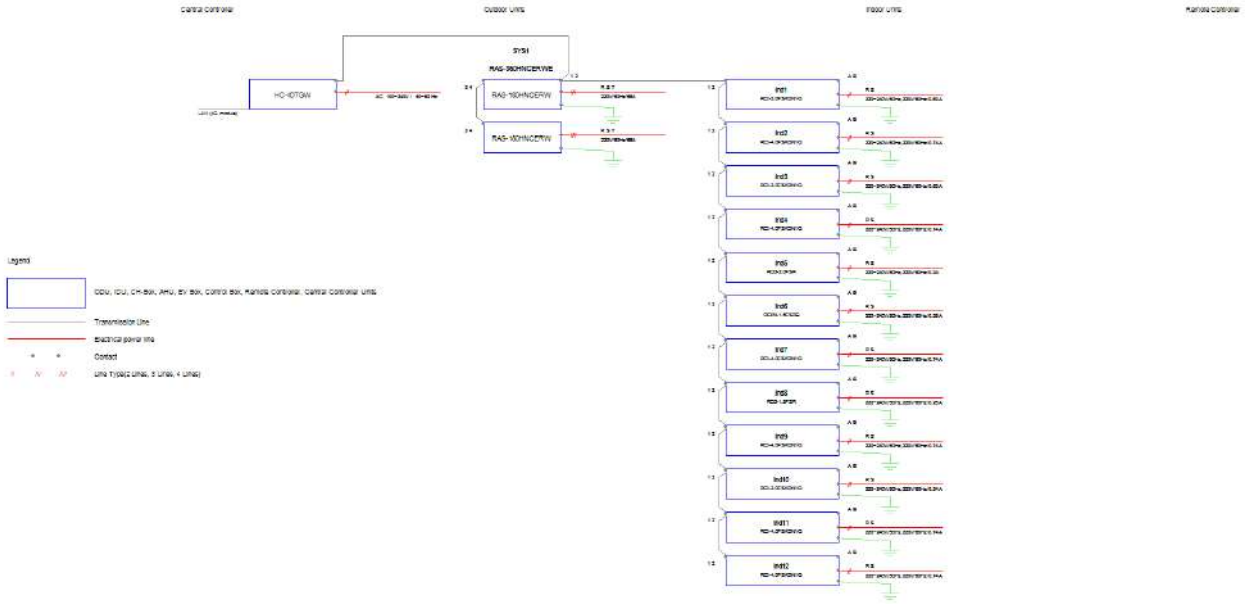
Power Supply

Model		Power supply	Input power kW	Max current A
	RAS-360HNCERWE (RAS-180HNCERW + RAS-180HNCERW)	220V/3Ph/60Hz	14.1+14.1	66+66
	RCI-3.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.15	0.63
	RCI-4.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.18	0.74
	RCD-2.0FSR	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.06	0.3
	RCIM-1.5FSRE	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.39
	RCD-1.5FSR	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.05	0.25
	RCI-2.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.34

RCS link description

- Minimum recommended section (up to 500 m): 2 x 0.75 mm² connected to earth at one point.
- Cable characteristics: non polar, twisted shielded pair of cable.
- One Remote Control Switch can control up to 16 Indoor Units as a maximum.
- Two Remote Control Switch can be connected in the same unit or unit group.
- The second one is a subsidiary remote control switch.

Central Controller



H-Link2 communication line description

- Minimum recommended section: 2 x 0.75 mm² connected to earth at one point. Shielding must be renewed every 300m.
- Transmitting wires: non polar, twisted shielded pair of cable.
- Maximum H-Link2 communication line length is 1000 m but can be increased until 5.000m using optional relay PSC-5HR.
- Several refrigerant systems can be connected together on a bus with H-LINK2 wiring using an open loop
- Maximum number of Outdoor Units is 64.
- Maximum number of Indoor Units is 160.
- Number of central controller: 1

EQUIPMENT LIST AND INFORMATION

Outdoor Units

Model & Components	System Name	Description	Quantity
RAS-360HNCERWE	SYS1	Commercial VRF HP, HNCEW	1
RAS-180HNCERW	-	*Components*	*2*

Indoor Units

Model	Description	Quantity
RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	6
RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	1
RCD-1.5FSR	Two Way Cassette(FSR)	1
RCD-2.0FSR	Two Way Cassette(FSR)	1

Accessories

Model	Description	Quantity
D50324A	Air Panel	9
P-AP90DNA	Air Panel	2
P-AP56NAM	Air Panel	1

Controllers

Model	Description	Quantity
HC-IOTGW	airCloud Gateway	1

Branch Kit

Pipe connection kit

Model	Description	Quantity
E302SNB2	Outdoor units piping connection kit	1

Multikit

Model	Description	Quantity
E302SNB2	Line branch kit	4
E242SNB2	Line branch kit	1
E102SNB2	Line branch kit	5
E162SNB2	Line branch kit	1

CH Box

Field Providing

Piping Materials

Pipe size(mm)	Length m
1/2	24.3
5/8	36.4
3/4	30.4
1/4	16
3/8	52
7/8	12.7
1	4.3
1 1/8	6
1 1/4	7.6
1 1/2	17.9

Refrigerant

Refrigerant Type	Quantity to be provided kg
R410A	15.2

Appendix –Equipment list for SYS1

Category	Model	Description	Quantity
Outdoor Units	RAS-360HNCERWE	Commercial VRF HP, HNCEW	1
	RAS-180HNCERW	component	2
Indoor Units	RCI-2.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	1
	RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	2
	RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	6
	RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	1
	RCD-1.5FSR	Two Way Cassette(FSR)	1
	RCD-2.0FSR	Two Way Cassette(FSR)	1
Accessory	D50324A	Air Panel	9
	P-AP90DNA	Air Panel	2
	P-AP56NAM	Air Panel	1
Piping Connection Kit	E302SNB2	Outdoor units piping connection kit	1
MultiKit	E302SNB2	Line branch kit	4
	E242SNB2	Line branch kit	1
	E102SNB2	Line branch kit	5
	E162SNB2	Line branch kit	1

Field Providing

Pipe size(mm)	Length
1/2	24.3
5/8	36.4
3/4	30.4
1/4	16
3/8	52
7/8	12.7
1	4.3
1 1/8	6
1 1/4	7.6
1 1/2	17.9

Refrigerant Type	Quantity to be provided kg
R410A	15.2

VRF System Selection Report

Project Name :SEMA LAJE - 6° PAVIMENTO (DIR)

Region :LA_BR

Selection Mode :Cooling

Sales Engineer :

Company:

Address:

Phone No:

Order Date : 10/12/2023

Delivery required date : 10/12/2023

Client Name :

Post Code :

Tel :

Mail :

Update Date: 10/12/2023
Project Revision:
Global Selection Software version: 5.0.2

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In fact, this software is not able to take into account all the site-specific factors that may influence the proper functioning of the selected device (e.g. piping or wiring lengths on site, third party AHU, geometry of the piping network, operating temperatures…).
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3. The failure to include any legal aspects that may correspond or be required according to current laws.
The Software and the issuing of this report are merely informative tools to assist the User in the planning and implementation of a project.

SYSTEM SELECTION

Outdoor Units

Pictures	Model Identification	Description	Quantity	Components
	RAS-360HNCERWE	Commercial VRF HP, HNCEW	1	RAS-180HNCERW RAS-180HNCERW - -

RAS-360HNCERWE Specifications		
Power supply		220V/3Ph/60Hz
Nominal capacity	Cooling	341,296.9BTU/h
	Heating	368,600.7BTU/h
EER		3.54
COP		3.90
SEER		
SCOP		
Sound power		dB(A)
Dimensions	Height	1,650mm
	Width	2,480mm
	Depth	420mm
Net Weight		462kg

Indoor Units

No Room

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind1	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind2	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind3	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind4	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind5	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind6	Two Way Cassette(FSR) RCD-2.0FSR	19,112.6	21,501.7	Air Panel P-AP90DNA			
	Ind7	Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	13,651.9	16,382.3	Air Panel P-AP56NAM			
	Ind8	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind9	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind10	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind11	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			

SYSTEM DESIGN

SYS1

Working Condition	Outdoor (Air)	Indoor (Air)
Cooling	**35.0 °C DB**	**27.0 °C DB** 19.6 °C WB (50% RH)
Heating	**7.0 °C DB** 3.1 °C WB (51% RH)	**20.0 °C DB**

Note:

- *Actual capacity takes into account all correction factors, including defrosting in heating mode.*
- *Each Indoor unit's temperature condition might be different. Software uses minimum wet bulb temperature of indoor for system cooling process and uses maximum dry bulb temperature of indoor for system heating process.*

Outdoor Units of the system

Outdoor Unit (SYS1)		Connect. Rate (%)		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)		
Ref + Description	Ident.	Actual	Max	Nominal	Actual	Required	Nominal	Actual	Required
Commercial VRF HP, HNCEW RAS-360HNCERWE		101	110	-	342,310.1	-	-	0.0	-
Total				***-***	***342310.1***	***-***	***-***	***0***	***-***

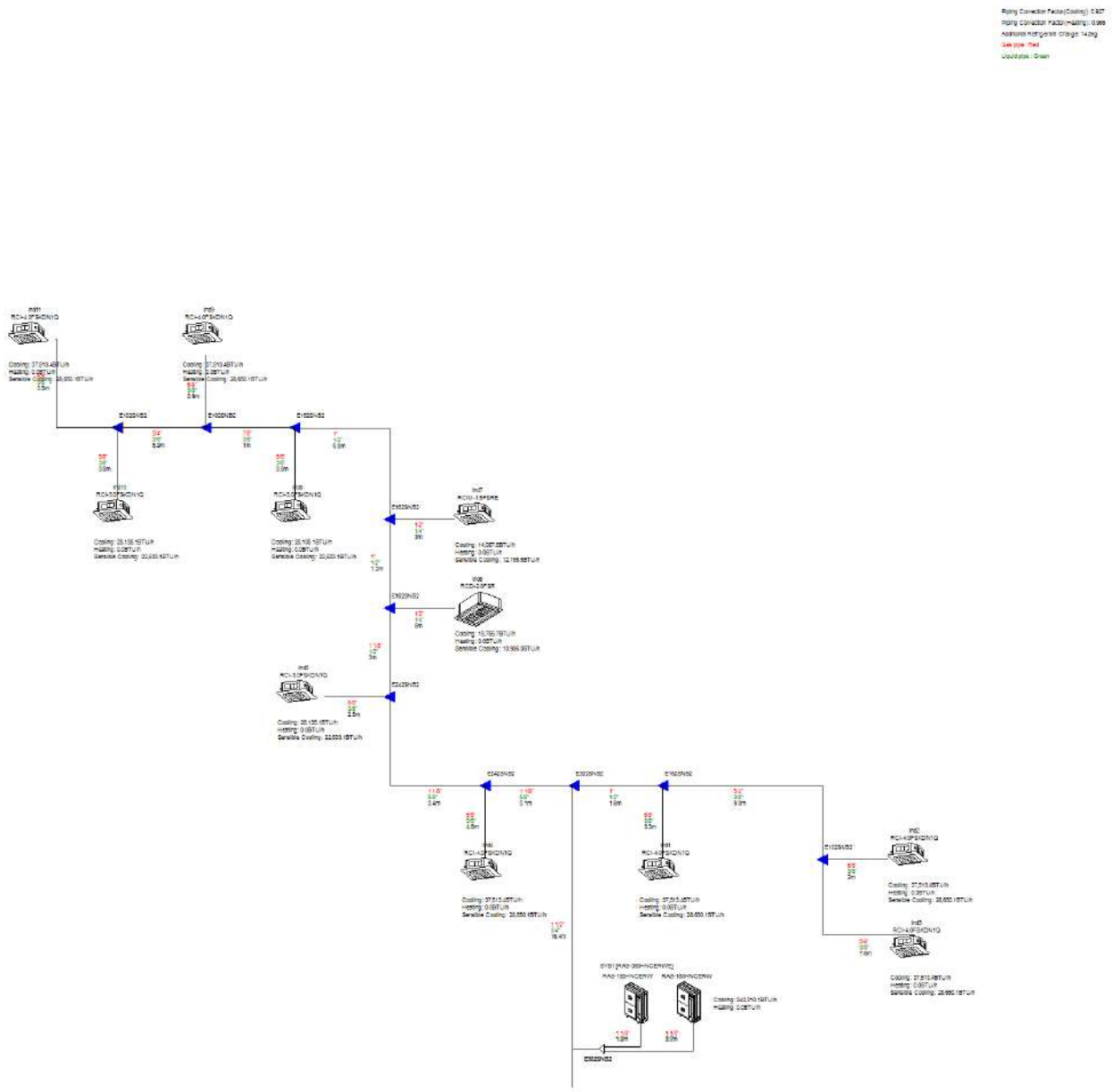
Indoor Units of the system

Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m³/h	Actual	Sensible	Required	Actual	Required
Total					***342,310.1***	***265,892.2***	***0.0***	***0.0***	***0.0***
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind1	43	High2	2,220.0	37,513.4	28,650.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind2	43	High2	2,220.0	37,513.4	28,650.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind3	43	High2	2,220.0	37,513.4	28,650.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind4	43	High2	2,220.0	37,513.4	28,650.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind5	36	High2	1,620.0	28,135.1	22,633.1	0.0	0.0	0.0
Two Way Cassette(FSR) RCD-2.0FSR	Ind6	36	High2	990.0	18,756.7	13,936.3	0.0	0.0	0.0
Mini Four Way Cassette(FSRE) RCIM-1.5FSRE	Ind7	37	High2	780.0	14,067.5	12,155.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind8	36	High2	1,620.0	28,135.1	22,633.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind9	43	High2	2,220.0	37,513.4	28,650.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind10	36	High2	1,620.0	28,135.1	22,633.1	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind11	43	High2	2,220.0	37,513.4	28,650.1	0.0	0.0	0.0

PIPING DESIGN

SYS1

Piping Diagram



*In case piping diameter is different from multikit diameter, use field supplied reducers.

SYS1

Piping Rules

Commercial VRF HP, HNCEW RAS-360HNCERWE		Project m	Max m	OK
Length	Total pipe length	99	500	✓
	Maximum piping length (Actual length)	44	120	✓
	Maximum piping length (Equivalent length)	52	150	✓
	Maximum Piping Length between Multi-kit of 1st Branch and Each Indoor Unit	28	90	✓
	Maximum Piping Length between Each Multi-kit and Each Indoor Unit	8	40	✓
	Piping Length between Piping Connection Kit 1 and Each Outdoor Unit	3	10	✓
Height	Height Difference between (O.U. is Upper)	0	110	✓
	Height Difference between (O.U. is Lower)	0	40	✓
	Height Difference between Indoor Units	0	30	✓
IU connectable (Min / **recommended** / Max)		11	1 / **32** / 59	✓
Connected Cap. (Min-Max)		101%	50% - 130%	✓

Refrigerant Load & Pipe size

Commercial VRF HP, HNCEW RAS-360HNCERWE	Refrigerant Type: R410A kg
OU refrigerant load (Charge before shipment)	19.2
Installation Additional refrigerant load (OU + Piping)	14.2
Total	***33.4***

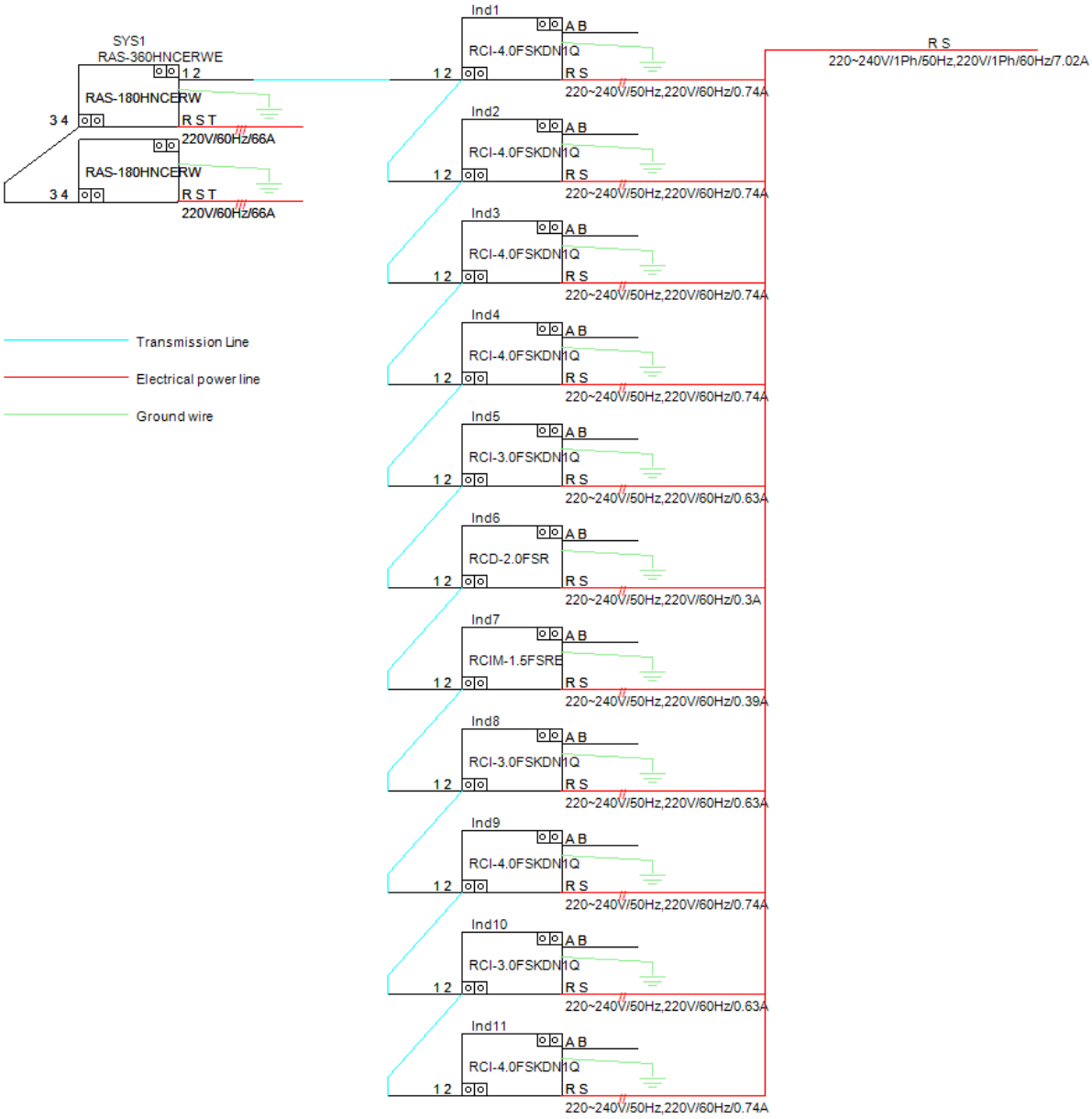
Recommendation

- If pipe size 1" is not available in your country, please use 1"1/8 as replacement.

WIRING DESIGN

SYS1

Wiring Diagram



SYS1

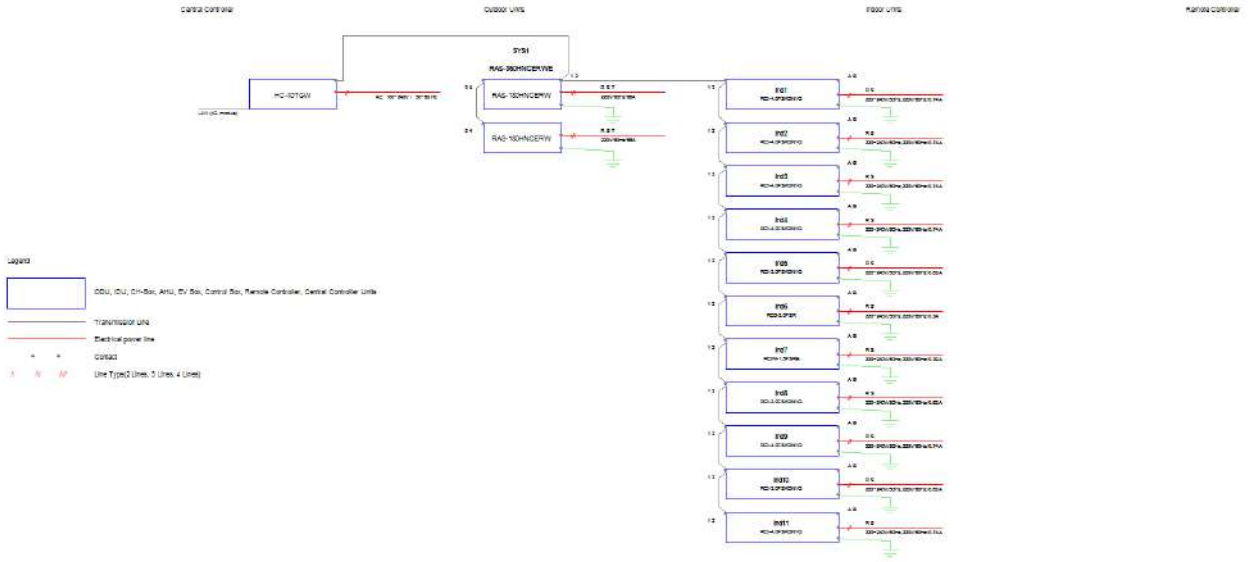
Power Supply

Model		Power supply	Input power kW	Max current A
	RAS-360HNCERWE (RAS-180HNCERW + RAS-180HNCERW)	220V/3Ph/60Hz	14.1+14.1	66+66
	RCI-4.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.18	0.74
	RCI-3.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.15	0.63
	RCD-2.0FSR	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.06	0.3
	RCIM-1.5FSRE	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.08	0.39

RCS link description

- Minimum recommended section (up to 500 m): 2 x 0.75 mm² connected to earth at one point.
- Cable characteristics**:** non polar, twisted shielded pair of cable.
- One Remote Control Switch can control up to 16 Indoor Units as a maximum.
- Two Remote Control Switch can be connected in the same unit or unit group.
- The second one is a subsidiary remote control switch.

Central Controller



H-Link2 communication line description

- Minimum recommended section: 2 x 0.75 mm² connected to earth at one point. Shielding must be renewed every 300m.
- Transmitting wires: non polar, twisted shielded pair of cable.
- Maximum H-Link2 communication line length is 1000 m but can be increased until 5.000m using optional relay PSC-5HR.
- Several refrigerant systems can be connected together on a bus with H-LINK2 wiring using an open loop
- Maximum number of Outdoor Units is 64.
- Maximum number of Indoor Units is 160.
- Number of central controller: 1

EQUIPMENT LIST AND INFORMATION

Outdoor Units

Model & Components	System Name	Description	Quantity
RAS-360HNCERWE	SYS1	Commercial VRF HP, HNCEW	1
RAS-180HNCERW	-	*Components*	*2*

Indoor Units

Model	Description	Quantity
RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	3
RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	6
RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	1
RCD-2.0FSR	Two Way Cassette(FSR)	1

Accessories

Model	Description	Quantity
D50324A	Air Panel	9
P-AP90DNA	Air Panel	1
P-AP56NAM	Air Panel	1

Controllers

Model	Description	Quantity
HC-IOTGW	airCloud Gateway	1

Branch Kit

Pipe connection kit

Model	Description	Quantity
E302SNB2	Outdoor units piping connection kit	1

Multikit

Model	Description	Quantity
E302SNB2	Line branch kit	1
E162SNB2	Line branch kit	4
E102SNB2	Line branch kit	3
E242SNB2	Line branch kit	2

CH Box

Field Providing

Piping Materials

Pipe size(mm)	Length m
1/2	25.3
5/8	40.7
3/4	31.6
1/4	9
3/8	50.4
7/8	1
1	9.3
1 1/8	13.5
1 1/2	16.4

Refrigerant

Refrigerant Type	Quantity to be provided kg
R410A	14.2

Appendix –Equipment list for SYS1

Category	Model	Description	Quantity
Outdoor Units	RAS-360HNCERWE	Commercial VRF HP, HNCEW	1
	RAS-180HNCERW	component	2
Indoor Units	RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	3
	RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	6
	RCIM-1.5FSRE	Mini Four Way Cassette(FSRE)	1
	RCD-2.0FSR	Two Way Cassette(FSR)	1
Accessory	D50324A	Air Panel	9
	P-AP90DNA	Air Panel	1
	P-AP56NAM	Air Panel	1
Piping Connection Kit	E302SNB2	Outdoor units piping connection kit	1
MultiKit	E302SNB2	Line branch kit	1
	E162SNB2	Line branch kit	4
	E102SNB2	Line branch kit	3
	E242SNB2	Line branch kit	2

Field Providing

Pipe size(mm)	Length
1/2	25.3
5/8	40.7
3/4	31.6
1/4	9
3/8	50.4
7/8	1
1	9.3
1 1/8	13.5
1 1/2	16.4

Refrigerant Type	Quantity to be provided kg

Refrigerant Type	Quantity to be provided kg
R410A	14.2

VRF System Selection Report

Project Name :SEMA LAJE - 6° PAVIMENTO (ESQ)

Region :LA_BR

Selection Mode :Cooling

Sales Engineer :

Company:

Address:

Phone No:

Order Date : 10/12/2023

Delivery required date : 10/12/2023

Client Name :

Post Code :

Tel :

Mail :

Update Date: 10/12/2023
Project Revision:
Global Selection Software version: 5.0.2

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In fact, this software is not able to take into account all the site-specific factors that may influence the proper functioning of the selected device (e.g. piping or wiring lengths on site, third party AHU, geometry of the piping network, operating temperatures…).
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2. The dynamic part of the Software, which is the result of the information input by the User in correspondence with the said parameters; the User is on all accounts exclusively liable for the accuracy of the information being input in the Software.
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SYSTEM SELECTION

Outdoor Units

Pictures	Model Identification	Description	Quantity	Components
	RAS-360HNCERWE	Commercial VRF HP, HNCEW	1	RAS-180HNCERW RAS-180HNCERW - -

RAS-360HNCERWE Specifications		
Power supply		220V/3Ph/60Hz
Nominal capacity	Cooling	341,296.9BTU/h
	Heating	368,600.7BTU/h
EER		3.54
COP		3.90
SEER		
SCOP		
Sound power		dB(A)
Dimensions	Height	1,650mm
	Width	2,480mm
	Depth	420mm
Net Weight		462kg

Indoor Units

No Room

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind2	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind3	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind4	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind5	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind6	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind7	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind8	Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	27,303.8	30,716.7	Air Panel D50324A			
	Ind9	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			
	Ind10	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			

Indoor Unit			Nominal Cap. (BTU/h)		Accessories	Control		
Picture	Ident.	Description - Model	Cool	Heat		Picture	Model	Gp
	Ind1	Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	38,225.3	42,662.1	Air Panel D50324A			

SYSTEM DESIGN

SYS1

Working Condition	Outdoor (Air)	Indoor (Air)
Cooling	**35.0 °C DB**	**27.0 °C DB** 19.6 °C WB (50% RH)
Heating	**7.0 °C DB** 3.1 °C WB (52% RH)	**20.0 °C DB**

Note:

- *Actual capacity takes into account all correction factors, including defrosting in heating mode.*
- *Each Indoor unit's temperature condition might be different. Software uses minimum wet bulb temperature of indoor for system cooling process and uses maximum dry bulb temperature of indoor for system heating process.*

Outdoor Units of the system

Outdoor Unit (SYS1)		Connect. Rate (%)		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)		
Ref + Description	Ident.	Actual	Max	Nominal	Actual	Required	Nominal	Actual	Required
Commercial VRF HP, HNCEW RAS-360HNCERWE		103	110	-	342,631.4	-	-	0.0	-
Total				***-***	***342631.4***	***-***	***-***	***0***	***-***

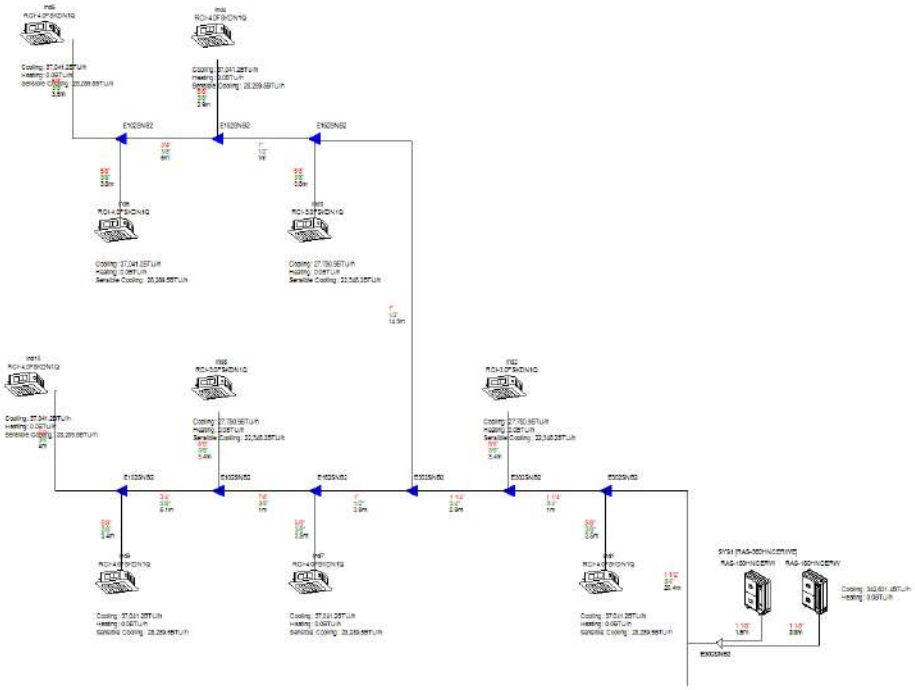
Indoor Units of the system

Indoor Unit (SYS1)		Sound Pressure dB(A)	Air Flow		Cooling Capacity (BTU/h)			Heating Capacity (BTU/h)	
Ref + Description	Ident.		Speed	m³/h	Actual	Sensible	Required	Actual	Required
Total					***342,631.4***	***265,071.3***	***0.0***	***0.0***	***0.0***
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind2	36	High2	1,620.0	27,780.9	22,348.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind3	36	High2	1,620.0	27,780.9	22,348.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind4	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind5	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind6	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind7	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-3.0FSKDN1Q	Ind8	36	High2	1,620.0	27,780.9	22,348.2	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind9	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind10	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0
Four Way Cassette(FSKDN1Q) RCI-4.0FSKDN1Q	Ind1	43	High2	2,220.0	37,041.2	28,289.5	0.0	0.0	0.0

PIPING DESIGN

SYS1

Piping Diagram



*In case piping diameter is different from multikit diameter, use field supplied reducers.

SYS1

Piping Rules

Commercial VRF HP, HNCEW RAS-360HNCERWE		Project m	Max m	OK
Length	Total pipe length	95	500	✓
	Maximum piping length (Actual length)	50	120	✓
	Maximum piping length (Equivalent length)	56	150	✓
	Maximum Piping Length between Multi-kit of 1st Branch and Each Indoor Unit	29	90	✓
	Maximum Piping Length between Each Multi-kit and Each Indoor Unit	4	40	✓
	Piping Length between Piping Connection Kit 1 and Each Outdoor Unit	3	10	✓
Height	Height Difference between (O.U. is Upper)	0	110	✓
	Height Difference between (O.U. is Lower)	0	40	✓
	Height Difference between Indoor Units	0	30	✓
IU connectable (Min / **recommended** / Max)		10	1 / **32** / 59	✓
Connected Cap. (Min-Max)		103%	50% - 130%	✓

Refrigerant Load & Pipe size

Commercial VRF HP, HNCEW RAS-360HNCERWE	Refrigerant Type: R410A kg
OU refrigerant load (Charge before shipment)	19.2
Installation Additional refrigerant load (OU + Piping)	15.5
Total	***34.7***

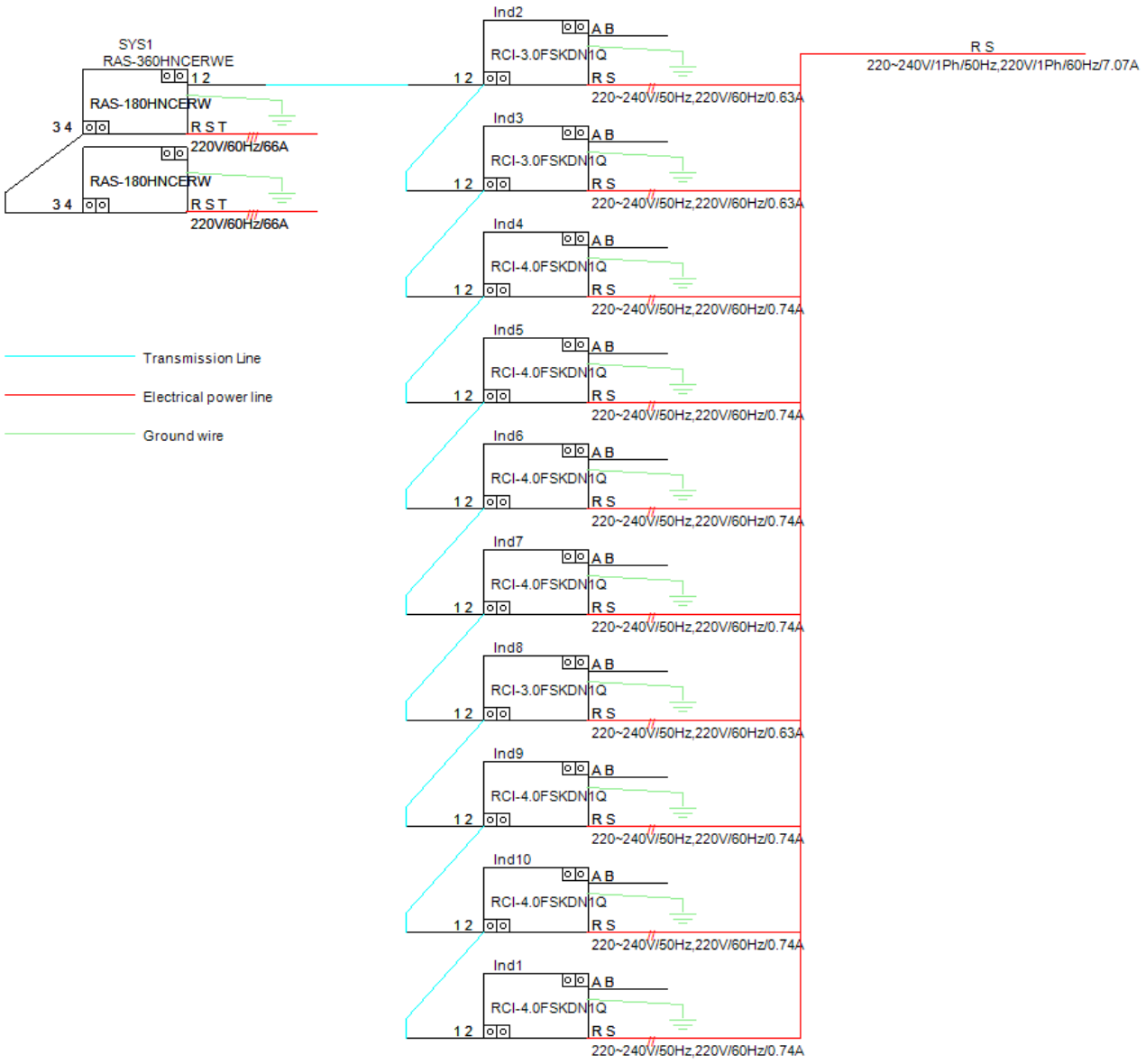
Recommendation

- If pipe size 1" is not available in your country, please use 1"1/8 as replacement.

WIRING DESIGN

SYS1

Wiring Diagram



SYS1

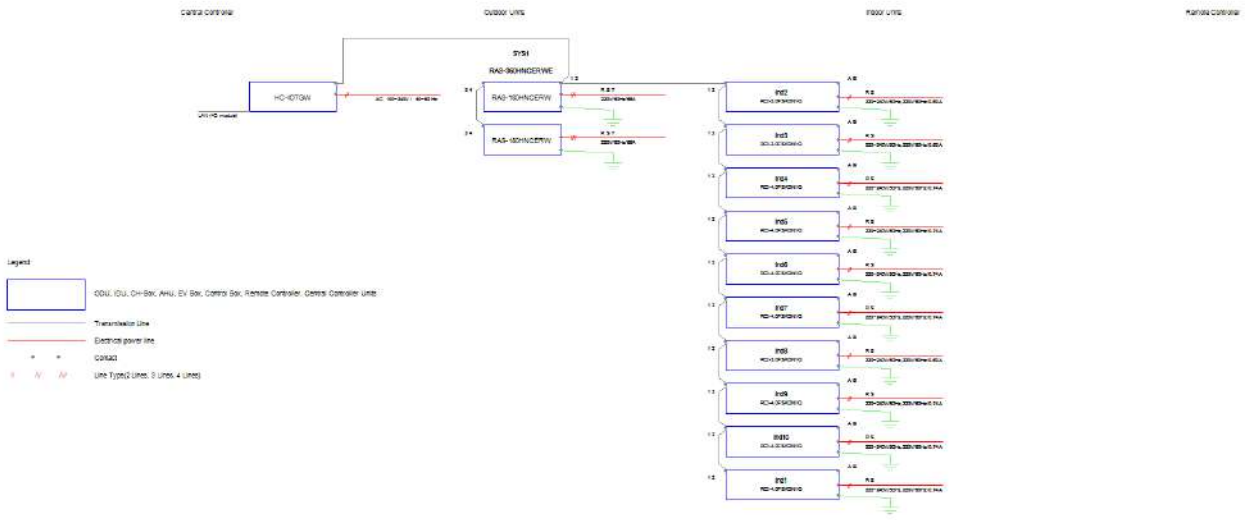
Power Supply

Model		Power supply	Input power kW	Max current A
	RAS-360HNCERWE (RAS-180HNCERW + RAS-180HNCERW)	220V/3Ph/60Hz	14.1+14.1	66+66
	RCI-3.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.15	0.63
	RCI-4.0FSKDN1Q	220~240V/1Ph/50Hz,220V/1Ph/60Hz	0.18	0.74

RCS link description

- Minimum recommended section (up to 500 m): 2 x 0.75 mm² connected to earth at one point.
- Cable characteristics: non polar, twisted shielded pair of cable.
- One Remote Control Switch can control up to 16 Indoor Units as a maximum.
- Two Remote Control Switch can be connected in the same unit or unit group.
- The second one is a subsidiary remote control switch.

Central Controller



H-Link2 communication line description

- Minimum recommended section: 2 x 0.75 mm² connected to earth at one point. Shielding must be renewed every 300m.
- Transmitting wires: non polar, twisted shielded pair of cable.
- Maximum H-Link2 communication line length is 1000 m but can be increased until 5.000m using optional relay PSC-5HR.
- Several refrigerant systems can be connected together on a bus with H-LINK2 wiring using an open loop
- Maximum number of Outdoor Units is 64.
- Maximum number of Indoor Units is 160.
- Number of central controller: 1

EQUIPMENT LIST AND INFORMATION

Outdoor Units

Model & Components	System Name	Description	Quantity
RAS-360HNCERWE	SYS1	Commercial VRF HP, HNCEW	1
RAS-180HNCERW	-	*Components*	*2*

Indoor Units

Model	Description	Quantity
RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	3
RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	7

Accessories

Model	Description	Quantity
D50324A	Air Panel	10

Controllers

Model	Description	Quantity
HC-IOTGW	airCloud Gateway	1

Branch Kit

Pipe connection kit

Model	Description	Quantity
E302SNB2	Outdoor units piping connection kit	1

Multikit

Model	Description	Quantity
E302SNB2	Line branch kit	3
E162SNB2	Line branch kit	3

Model	Description	Quantity
E102SNB2	Line branch kit	3

CH Box

Field Providing

Piping Materials

Pipe size(mm)	Length m
1/2	22.7
3/4	36.4
3/8	48.3
5/8	35.2
7/8	1
1	18.4
1 1/8	4.3
1 1/4	3.9
1 1/2	20.4

Refrigerant

Refrigerant Type	Quantity to be provided kg
R410A	15.5

Appendix –Equipment list for SYS1

Category	Model	Description	Quantity
Outdoor Units	RAS-360HNCERWE	Commercial VRF HP, HNCEW	1
	RAS-180HNCERW	component	2
Indoor Units	RCI-3.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	3
	RCI-4.0FSKDN1Q	Four Way Cassette(FSKDN1Q)	7
Accessory	D50324A	Air Panel	10
Piping Connection Kit	E302SNB2	Outdoor units piping connection kit	1
MultiKit	E302SNB2	Line branch kit	3
	E162SNB2	Line branch kit	3
	E102SNB2	Line branch kit	3

Field Providing

Pipe size(mm)	Length
1/2	22.7
3/4	36.4
3/8	48.3
5/8	35.2
7/8	1
1	18.4
1 1/8	4.3
1 1/4	3.9
1 1/2	20.4

Refrigerant Type	Quantity to be provided kg
R410A	15.5

MEMORIAL DESCRITIVO

GOVERNO DE MATO GROSSO

SECRETARIA DE ESTADO

DE MEIO AMBIENTE

SEMA/MT

SISTEMA DE AR CONDICIONADO

ANEXOS

ANEXO 1 – VAZÃO EFICAZ – 1° PAVIMENTO

Zona	Ambiente	Pessoas	Fp	Qpess(m³/s)	Área	Fa	Qárea(m³/s)	QTot (m³/h)	Qpess(m³/h)
1	Sec. Adj. Meio Ambiente	6	3,8	22,8	22,9	0,5	11,45	123	21
2	Ch. Gab. Sec. Adj. M.A.	3	3,8	11,4	8,97	0,5	4,485	57	19
3	Ch. Gab. Sec. Adj. A.S..	3	3,8	11,4	9,23	0,5	4,615	58	19
4	Recepção Sec. Adj. M.A.	1	3,8	3,8	11,35	0,5	5,675	34	34
5	Recepção Sec. Adj. A.S.	1	3,8	3,8	10,37	0,5	5,185	32	32
6	Sec. Adj. A.S.	6	3,8	22,8	18,44	0,5	9,22	115	19
7	Ass. Gab. Sec. Adj. A.S.	11	3,8	41,8	28,47	0,5	14,235	202	18
8	Unidade de comunicação	11	3,8	41,8	30,21	0,5	15,105	205	19
9	Reuniões (23 lug)	23	3,8	87,4	54,36	0,5	27,18	412	18
10	Ass. Esp. SEMA	3	3,8	11,4	16,27	0,5	8,135	70	23
11	Rec. Sec.Sec. Adj. A.S.	6	3,8	22,8	44,93	0,5	22,465	163	27
12	Comissão de ética	12	3,8	45,6	23,09	0,5	11,545	206	17
13	Gab. SEMA	6	3,8	22,8	42	0,5	21	158	26
14	Ch. Gab. SEMA	5	3,8	19	40,13	0,5	20,065	141	28
15	Controle interno	7	3,8	26,6	27,79	0,5	13,895	146	21
16	Ass. Jur. Ch. SEMA	3	3,8	11,4	25	0,5	12,5	86	29
17	Atend. Ass. Jur. Ch. SEMA	20	3,8	76	73,16	0,5	36,58	405	20
18	Um. Gestão Est. NGER	12	3,8	45,6	31,69	0,5	15,845	221	18
19	Um. transparência	7	3,8	26,6	21,19	0,5	10,595	134	19
20	Gestão pessoas	11	3,8	41,8	32,9	0,5	16,45	210	19
21	Acesso de servidores	10	3,8	38	61,95	0,5	30,975	248	25
22	Copa	6	3,8	22,8	9,5	0,5	4,75	99	17
23	Rack	1	3,8	3,8	10	0,5	5	32	32

ANEXO 1 – VAZÃO EFICAZ – 2° PAVIMENTO

Zona	Ambiente	Pessoas	Fp	Qpess(m^3/s)	Área	Fa	Qárea(m^3/s)	QTot (m^3/h)	Qpess(m^3/h)
24	Reuniões (14 pes)	14	3,8	53,2	25,3	0,5	12,65	237	17
25	Espera	21	3,8	79,8	75,48	0,5	37,74	423	20
26	Atendimento	84	3,8	319,2	216,3	0,5	108,15	1538	18
27	Coord. Atend. Cidadão	3	3,8	11,4	9,08	0,5	4,54	57	19
28	Coord. Arrecadação	13	3,8	49,4	39,45	0,5	19,725	249	19
29	Protocolo	3	3,8	11,4	14,42	0,5	7,21	67	22
30	Protocolo interno	4	3,8	15,2	19,7	0,5	9,85	90	23
31	Ouvidoria St. M.A.	10	3,8	38	43,46	0,5	21,73	215	22
32	Circulação	6	3,8	22,8	26,42	0,5	13,21	130	22
33	Reuniões (10 pes)	10	3,8	38	15,95	0,5	7,975	166	17
34	Reuniões (14 pes)	14	3,8	53,2	25,6	0,5	12,8	238	17
35	Reuniões (8 pes)	10	3,8	38	15,1	0,5	7,55	164	16
36	Reuniões (10 pes)	10	3,8	38	15,1	0,5	7,55	164	16
37	Reuniões (14 pes)	14	3,8	53,2	26,23	0,5	13,115	239	17
38	Copa	6	3,8	22,8	9,5	0,5	4,75	99	17
39	Rack	1	3,8	3,8	10	0,5	5	32	32

ANEXO 1 – VAZÃO EFICAZ – 3° PAVIMENTO

Zona	Ambiente	Pessoas	Fp	Qpess(m^3/s)	Área	Fa	Qárea(m^3/s)	QTot (m^3/h)	Qpess(m^3/h)
40	SURH	3	3,8	11,4	18,16	0,5	9,08	74	25
41	Ch. Gab. SURH	3	3,8	11,4	8,96	0,5	4,48	57	19
42	___	5	3,8	19	21,01	0,5	10,505	106	21
43	Ch. Gab. Se, Adj. LICEN	3	3,8	11,4	8,05	0,5	4,025	56	19
44	Coh/CCRH/Autos Infr.	128	3,8	486,4	458,74	0,5	229,37	2577	20
45	Super. Ges SGPA	5	3,8	19	18,7	0,5	9,35	102	20
46	CGPA - Adm. Autos.	3	3,8	11,4	6,83	0,5	3,415	53	18
47	Um. Setorial Corr.	4	3,8	15,2	19,45	0,5	9,725	90	22
48	Sup. Gest. Descon. Desc.	5	3,8	19	18,36	0,5	9,18	101	20
49	Gestão Esconc. Desc.	23	3,8	87,4	77,88	0,5	38,94	455	20
50	Copa	6	3,8	22,8	9,5	0,5	4,75	99	17
51	Rack	1	3,8	3,8	10	0,5	5	32	32
52	Recepção	18	3,8	68,4	105	0,5	52,5	435	24

ANEXO 1 – VAZÃO EFICAZ – 4° PAVIMENTO

Zona	Ambiente	Pessoas	Fp	Qpess(m³/s)	Área	Fa	Qárea(m³/s)	QTot (m³/h)	Qpess(m³/h)
53	Super. SUBID	3	3,8	11,4	16,32	0,5	8,16	70	23
54	Ch. Gab. Super. SUBID	3	3,8	11,4	7,87	0,5	3,935	55	18
55	CUCO/CFFL/CCRE	190	3,8	722	539,33	0,5	269,665	3570	19
56	Ch. Gab. SUF	3	3,8	11,4	7,93	0,5	3,965	55	18
57	Sup. Fisc. SUF	3	3,8	11,4	14,43	0,5	7,215	67	22
58	Depósito SUF	0	3,8	0	10,1	0,5	5,05	18	18
59	Sala situação SUF	23	3,8	87,4	37,2	0,5	18,6	382	17
60	Call center	7	3,8	26,6	20,07	0,5	10,035	132	19
61	Ass. Sup. Fisc. SUF	21	3,8	79,8	68,88	0,5	34,44	411	20
62	Copa	6	3,8	22,8	9,5	0,5	4,75	99	17
63	Rack	1	3,8	3,8	10	0,5	5	32	32

ANEXO 1 – VAZÃO EFICAZ – 5° PAVIMENTO

Zona	Ambiente	Pessoas	Fp	Qpess(m³/s)	Área	Fa	Qárea(m³/s)	QTot (m³/h)	Qpess(m³/h)
64	Situação Ag. Nac. Águas	16	3,8	60,8	93,19	0,5	46,595	387	24
65	CIMA - Sala de crise	29	3,8	110,2	65,06	0,5	32,53	514	18
66	Circulação	1	3,8	3,8	41,04	0,5	20,52	88	88
67	Sala de situação - SURH	12	3,8	45,6	72,2	0,5	36,1	294	25
68	Sala de rack	1	3,8	3,8	13,25	0,5	6,625	38	38
69	Ass. CGMA	17	3,8	64,6	46,02	0,5	23,01	315	19
70	Coord/Ass. CIT	97	3,8	368,6	254,37	0,5	127,185	1785	18
71	NIOC	12	3,8	45,6	38,1	0,5	19,05	233	19
72	Central de monitoramento	5	3,8	19	15,07	0,5	7,535	96	19
73	Comitê de fogo	26	3,8	98,8	78	0,5	39	496	19
74	Copa	6	3,8	22,8	9,5	0,5	4,75	99	17
75	Rack	1	3,8	3,8	10	0,5	5	32	32

ANEXO 1 – VAZÃO EFICAZ – 6° PAVIMENTO

Zona	Ambiente	Pessoas	Fp	Qpess(m³/s)	Área	Fa	Qárea(m³/s)	QTot (m³/h)	Qpess(m³/h)
76	Salão	243	3,8	923,4	769	0,5	384,5	4708	19
77	Copa	6	3,8	22,8	9,5	0,5	4,75	99	17
78	Rack	1	3,8	3,8	10	0,5	5	32	32

ANEXO 2 - TOTAL EQUIPAMENTOS VRF

TOTAL EQUIPAMENTOS VRF												
TAG	EQUIPAMENTO	MODELO	TIPO	btu/h	HP	1°PAV	2°PAV	3°PAV	4°PAV	5°PAV	6°PAV	TOTAIS
UC 01	CONDENSADORA	RAS140HNCERW	SIDE SMART	136.480	14,0	-	-	1	-	-	-	1
UC 02	CONDENSADORA	RAS360HNCERW	SIDE SMART	346.318	36,0	-	-	-	-	2	2	4
UC 03	CONDENSADORA	RAS520HNCERW	SIDE SMART	501.564	52,0	1	-	-	-	-	-	1
UC 04	CONDENSADORA	RAS540HNCERW	SIDE SMART	518.624	54,0	-	1	1	-	-	-	2
UC 05	CONDENSADORA	RAS640HNCERW	SIDE SMART	614.160	64,0	-	-	-	1	-	-	1
TOTAL COND						1	1	2	1	2	2	9
UE 01	EVAPORADORA	RCI1,0FSN3B4	CASSETE-4V	9.554	1,0	1	-	1	-	-	-	2
UE 02	EVAPORADORA	RCI1,5FSN3B4	CASSETE-4V	13.648	1,5	2	-	-	1	-	-	3
UE 03	EVAPORADORA	RCI2,0FSN3B4	CASSETE-4V	19.107	2,0	6	18	5	1	2		32
UE 04	EVAPORADORA	RCI2,5FSN3B4	CASSETE-4V	24.225	2,5	7	2	-	-	5		14
UE 05	EVAPORADORA	RCI3,0FSN3B4	CASSETE-4V	27.296	3,0	2	-	11	19	4	6	42
UE 06	EVAPORADORA	RCI4,0FSN3B4	CASSETE-4V	38.214	4,0	2	2	2	-	10	13	29
UE 07	EVAPORADORA	RCIS1,0FSKDNQ	CASSETE-1V	9.554	1,0	-	-	-	1	-	-	1
UE 08	EVAPORADORA	RCD1,0FSR	CASSETE-2V	9.554	1,0	1	-	-	-	-	-	1
UE 09	EVAPORADORA	RCD1,5FSR	CASSETE-2V	13.648	1,5	-	-	-	-	1	-	1
UE 10	EVAPORADORA	RCD2,0FSR	CASSETE-2V	19.107	2,0	1	1	-	1	1	1	5
UE 11	EVAPORADORA	RCD2,5FSR	CASSETE-2V	24.225	2,5	-	1	-	-	-	-	1
UE 12	EVAPORADORA	RCIM1,0FSRE	JUNIOR	9.554	1,0	2	1	3	2	-	-	8
UE 13	EVAPORADORA	RCIM1,5FSRE	JUNIOR	13.648	1,5	1	1	1	2	1	1	7
UE 14	EVAPORADORA	RPI5,0FSNQH	BUILT IN	48.768	5,0	-	-	3	-	-	-	3
TOTAL EVAP						25	26	26	27	24	21	149

MEMORIAL DESCRITIVO

GOVERNO DE MATO GROSSO

SECRETARIA DE ESTADO

DE MEIO AMBIENTE

SEMA/MT

SISTEMA DE AR CONDICIONADO

GENERALIDADES

1 - OBJETIVO

O presente memorial descritivo visa estabelecer critérios técnicos para a instalação de sistemas de climatização, ventilação, exaustão e tratamento do ar ambiental, visando o conforto e a qualidade de pureza do ar dos recintos. A instalação será do tipo expansão direta utilizando o sistemas de fluxo variável de refrigerante (VRF). Tais sistemas deverão ser implantados no novo anexo da Sema, situado à rua C, esquina com a rua F, no Centro Político Administrativo do estado de Mato Grosso, em Cuiabá-MT..

2 - BASES DO PROJETO

2.1 - NORMAS TÉCNICAS

Na elaboração do projeto foram adotadas as normas técnicas e recomendações da ABNT "Associação Brasileira de Normas Técnicas" (NBR 16401-2008, NBR 7256-2005, NBR 5410-2008 e normas correlatas, na portaria nº 09 da ANVISA, ASHRAE "American Society of Heating Refrigerating and Air Conditioning Engineers" e da SMACNA “Steel Metal Air Conditioning Contractors National Association”.

2.2 - DESCRIÇÃO DA EDIFÍCIO

Trata-se de um edifício construído em alvenaria, com fachada principal voltada para SE, composto por seis pavimentos, sendo que o sexto, no momento, não será utilizado. Serão atendidos todos os ambientes onde houver presença permanente de pessoas. O pé direito livre considerado em todos os pavimentos foi de 3,0 m. A proteção contra a insolação direta na área envidraçada será feita por vidros especiais que reduzem a radiação solar e a transmissão externa de calor.

As paredes externas serão de blocos ou tijolos de barro de oito furos, revestidas interna e externamente com reboco de argamassa.

As divisões internas serão feitas em alvenaria ou gesso acartonado.

O forro será de gesso, rebaixado para passagem das tubulações e fiações necessárias.

A iluminação artificial será feita por lâmpadas fluorescentes/Led.

2.3 - PARÂMETROS CONSIDERADOS

Na elaboração do projeto de climatização para conforto ambiental, foram considerados os seguintes parâmetros:

2.3.1-CONSIDERAÇÕES PRELIMINARES

Latitude sul	15° 35' 45"
Longitude oeste	56° 05' 49"
Altitude	125 m
Variação diária de temperatura	6,1 °C
Horários estudados	9:00/13:00/16:00

2.3.2-CONDIÇÕES EXTERNAS

Temperatura de bulbo seco	36,0 ºC
Temperatura de bulbo úmido	27,0 ºC
Umidade relativa	51,0 %
Umidade específica	18,9 g/Kg
Ponto de orvalho	24,0°C

2.3.3-CONDIÇÕES INTERNAS

Temperatura de bulbo seco	24,0 ºC
Temperatura de bulbo úmido	17,0 ºC
Umidade relativa	50,0 %
Umidade específica	9,2 g/Kg
Ponto de orvalho	12,8 ºC

2.3.4 - FONTES INTERNAS DE CALOR

a – Pessoas

Ambiente	Taxa de ocupação	Tipo atividade	Calor sensível (Kcal/h/pessoa)	Calor latente (Kcal/h/pessoa)
Todos os ambientes	Conf. layout	Atividade moderada	64	47

b – Iluminação

Ambiente	Taxa de iluminação (W/m2)
Todos os ambientes	16

2.4 - CARGA TÉRMICA

2.4.1 – PRIMEIRO PAVIMENTO

Zona	Ambiente	Carga térmica (Kcal/h)	Carga térmica (Btu/h)	Carga térmica (Kw)
01	Salão	108.014	432.056	126,63
02	Rack	4.524	18.096	5,30
03	Copa	3.270	13.080	3,83
TOTAIS:		**115.808**	**463.232**	**135,76**

2.4.2 – SEGUNDO PAVIMENTO

Zona	Ambiente	Carga térmica (Kcal/h)	Carga térmica (Btu/h)	Carga térmica (Kw)
01	Salão	136.222	544.888	159,70
02	Rack	4.524	18.096	5,30
03	Copa	3.270	13.080	3,83
04	Recepção (PD duplo)	23.460	93.840	27,50
TOTAIS:		**167.476**	**669.904**	**196.33**

2.4.3 – TERCEIRO PAVIMENTO

Zona	Ambiente	Carga térmica (Kcal/h)	Carga térmica (Btu/h)	Carga térmica (Kw)
01	Salão	118.985	475.940	139.49
02	Rack	4.524	18.096	5,30
03	Copa	3.270	13.080	3,83
TOTAIS:		**126.779**	**507.116**	**148,62**

2.4.4 – QUARTO PAVIMENTO

Zona	Ambiente	Carga térmica (Kcal/h)	Carga térmica (Btu/h)	Carga térmica (Kw)
01	Salão	152.488	609.952	178,77
02	Rack	4.524	18.096	5,30
03	Copa	3.270	13.080	3,83
TOTAIS:		**160.282**	**641.128**	**187,90**

2.4.5 – QUINTO PAVIMENTO

Zona	Ambiente	Carga térmica (Kcal/h)	Carga térmica (Btu/h)	Carga térmica (Kw)
01	Salão	164.218	656.872	192,52
02	Rack	4.524	18.096	5,30
03	Copa	3.270	13.080	3,83
TOTAIS:		**172.012**	**688.048**	**201,66**

2.5- CÁLCULO DA RENOVAÇÃO DE AR

FORMULA UTILIZADA – Vef=(P2xFp)+(A2xFa) - (ABNT 16.401 – Item 5.2.1)

Onde: Vef – vazão eficaz de ar exterior (L/s)
P2 – número de pessoas no ambiente
Fp - vazão por pessoa (L/s*pessoa)
A2 – área útil ocupada pelas pessoas (m²)
Fa – vazão por área útil ocupada (L/s*m²)

Consderações:

- da tab 1 – ABNT 16.401 – "Escritório com alta densidade – nível 3"

Fp = 3,8
Fa = 0,5

Resultados:

Salão 1° pavimento – Vef = 968,8 L/s = 3.488 m³/h
Salão 2° pavimento – Vef = 1.146,1 L/s = 4.126 m³/h
Salão 3° pavimento – Vef = 1.026,2 L/s = 3.694 m³/h
Salão 4° pavimento – Vef = 1.307,9 L/s = 4.708 m³/h
Salão 5° pavimento – Vef = 1.212,0 L/s = 4.364 m³/h
Rack (1°/2°/3°/4°/5° pavimentos)– Vef = 8,8 L/s = 32 m³/h
Copa (1°/2°/3°/4°/5° pavimentos)– Vef = 27,55 L/s = 99 m³/h
Recepção (PD duplo) - Vef = 120,9 L/s = 435 m³/h

3 - CARACTERÍSTICAS DA INSTALAÇÃO

3.1 - FINALIDADE

O sistema condicionador de ar deverá ter característica e capacidade adequadas para promover o resfriamento, a filtragem e a desumidificação do ar ambiente durante todo o ano, mantendo os recintos condicionados nas condições ideais de conforto térmico, com controle de temperatura e pureza do ar. A temperatura ambiente deverá ser mantida entre os limites de 23 e 25 ºC, com umidade relativa simultânea compreendida entre os limites de 50 e 55% sempre que as condições externas simultâneas não ultrapassarem os 36 ºC de temperatura e 51% de umidade relativa.

3.2 - DESCRIÇÃO DA INSTALAÇÃO

3.2.1 - AR CONDICIONADO

A instalação será do tipo expansão direta para atender todos os pavimentos.

Tal sistema será composto por unidades condensadoras do tipo VRF (variable refrigerante flow) e unidades evaporadoras individuais do tipo cassete.

Circuito de refrigerante: cada circuito será construído em tubulações de cobre isoladas termicamente, provido de derivações para cada unidade evaporadora, interligando as unidades condensadoras às unidades evaporadoras individuais. O calor retirado dos ambientes pelas unidades evaporadoras será conduzido continuamente às unidades

condensadoras pelo gás refrigerante de onde será transferido para a atmosfera exterior. Após isso o refrigerante retornará às unidades evaporadoras, completando o ciclo.

As unidades evaporadoras serão do tipo cassete e serão instalados no entreforro das salas, fixados à laje acima destes. O insuflamento do ar será feito diretamente dos equipamentos aos ambientes. O retorno será feito diretamente dos ambientes aos equipamentos. No terceiro pavimento, sobre o pé direito duplo da recepção, serão instaladas unidades do tipo built-in, interligadas a uma pequena rede de dutos e bocas de difusão e retorno de ar.

Os conjuntos de unidades condensadoras serão instalados na cobertura, sobre laje impermeabilizada com exceção da unidade condensadora que atende a recepção, que será instalada sobre plataforma metálica, acima do telhado. O quinto e o sexto pavimentos serão atendidos por dois conjuntos de condensadoras.

A temperatura dos ambientes será controlada pela da abertura ou fechamento de válvulas de expansão eletrônicas que controlarão o fluxo de refrigerante, atuadas por um termostato ambiente.

As salas dos racks possuirão um sistema reserva do tipo Split System inverter.

3.2.2 - VENTILAÇÃO MECÂNICA (RENOVAÇÃO DE AR)

A renovação do ar dos ambientes será feita por meio de caixas de ventilação providas de filtros que captarão o ar no exterior e insuflarão nos ambientes através de redes de dutos interligadas a grelhas instaladas no forro.

3.2.3 - EXAUSTÃO MECÂNICA

A renovação de ar dos sanitários PCD, DMLs e copas será feita por meio de exaustores compactos interligados à dutos flexíveis, instalados nos forros, nos cantos dos recintos.

As descargas de ar para o exterior, será feita no shaft existente, próximo à parede de cada sanitário e no vazio próximo às copas e DMLs..

A taxa mínima de renovação considerada foi de 10 trocas/h.

ESCOPO DE FORNECIMENTO

O sistema será constituído basicamente por:

AR CONDICIONADO

01- 07 (sete) conjuntos de unidades condensadoras.
02- 103 (cento e três) unidades evaporadoras.
03- 05 (cinco) conjuntos Split System inverter.
04- Linhas de refrigerante.
05- Rede de distribuição e retorno de ar.
06- Difusores de insuflamento.
07- Grelhas de retorno.
08- Interligações elétricas.
09- Linhas de drenagem.
10- Operação e controle.
11- Controle de temperatura.
12- Válvulas de bloqueio.
13- Infraestrutura

VENTILAÇÃO MECÂNICA

01- 10 (dez) gabinetes de ventilação.
02- Rede de distribuição de ar.
03- Grelhas de insuflamento.

EXAUSTÃO MECÂNICA

01- 21 (vinte e um) kits exaustores compactos.
02- Rede de distribuição de ar.
03- Grelhas de reposição de ar.

04- CARACTERÍSTICAS TÉCNICAS

4.1 - AR CONDICIONADO

4.1.1 - CONJUNTO DE UNIDADES CONDENSADORAS

Deverão ser fornecidos e instalados 07 (sete) conjuntos condensadores, do tipo cooling only apoiados em calços anti-vibratórios. instalados em laje impermeabilizada ou plataforma metálica, na cobertura do edifício.

DESCRIÇÃO	COMBINAÇÃO (HP)	QUANTIDADE
UC 01 - 12HP	12	01
UC 01 - 38HP	14+12+12	02
UC 01 - 52HP	14+14+12+12	01
UC 01 - 62HP	16+16+16+14	01
UC 01 - 64HP	16+16+16+16	01
UC 01 - 72HP	18+18+18+18	01

Os conjuntos serão equipados com compressores do tipo Scroll DC Inverter, de alta performance, eficiência energética e baixo consumo de energia e nível de ruído, para operação com fluido refrigerante R410A.

Os condensadores possuirão trocadores de calor constituídos de tubos de cobre com aletas e cabeceira em alumínio, com operação em corrente cruzada. Serão equipados com ventiladores axiais, com hélices construídas com materiais e geometria que proporcionem baixo nível de ruído de operação

O controle do fluxo de refrigerante se dará por válvula de expansão, controlada por microcomputador.

Características técnicas: - conforme quadros descritivos constantes nos desenhos técnicos.

Fabricante de referência : Hitachi – modelo Side Smart

Alimentação elétrica: 220V/60 Hz/3F+N - Quando o sistema de distribuição de energia for 220/127V

4.1.2 - UNIDADES EVAPORADORAS

Deverão ser fornecidas e instaladas 103 (cento e três) unidades evaporadoras, sendo 90 (noventa) do tipo cassete de quatro vias nas áreas de trabalho, 05 (cinco) do tipo cassete mini, de quatro vias nas copas, 05 (cinco) do tipo cassete de duas vias nas salas dos racks, todas para insuflamento direto nos ambientes e 03 (três) do tipo built-in interligadas à pequenas redes de dutos isoladas termicamente, difusores de insuflamento e grelhas de retorno. Todas as unidades serão para instalação embutida nos forros, sustentadas por vergalhões roscados fixados nas lajes e operadas por controles remotos individuais sem fio, nas seguintes capacidades e quantidades:

DESCRIÇÃO	CAPACIDADE (btu/h)	QUANTIDADE
UE 01 – Cassete mini - 4 vias	13.648	05
UE 02 - Cassete - 2 vias	19.107	05
UE 03 - Cassete - 4 vias	27.296	18
UE 04 - Cassete - 4 vias	38.214	72
UE 05 - Built-in	38.214	03

Serão constituídas basicamente por um ventilador e um trocador de calor, providas de filtros de tela plástica laváveis. Cada unidade será composta por um gabinete metálico ou plástico reforçado. O painel de acabamento será construído em plástico de alta resistência.

Os ventiladores serão do tipo Sirocco, com pás voltadas para frente, acionados diretamente por motores elétricos a indução.

Alimentação elétrica:

220V/1F + N - Quando o sistema de distribuição de energia for 380/220V.

220V/1F+1F - Quando o sistema de distribuição for 220/127V. Importante: aterrar a carcaça do equipamento para evitar choques elétricos.

As serpentinas serão construídas em tubos de cobre paralelos, com aletas em alumínio,

Com espaçamento máximo de 18 aletas por polegada fixadas por expansão mecânica dos tubos.

As cabeceiras serão construídas em chapas de alumínio anodizado.

Os coletores e distribuidores serão construídos com tubos de cobre.

As bandejas de recolhimento da água de condensação deverão ter caimento para o lado da drenagem. Quando metálicas, deverão ter isolamento térmico e tratamento contra corrosão. As unidades cassete deverão ser equipadas com micro-bombas para retirada da água das bandejas, para desnível máximo de 650 mm.

4.1.3 - CONJUNTOS SINGLE SPLIT

Como equipamentos reserva, para atender as salas dos racks, deverão ser fornecidos e instalados 05 (cinco) conjuntos condicionadores do tipo split system com capacidade de 18.000 btu/h, cada um composto por uma unidade evaporadora interna do tipo hi-wall, para instalação junto à parede, operada por controle remoto sem fio e uma unidade condensadora externa com descarga horizontal ou vertical, assentada em calços de neoprene em lajes técnicas nas laterais do edifício. Cada unidade deverá ser equipada com um compressor do tipo inverter.

DESCRIÇÃO	CAPACIDADE (btu/h)	QUANTIDADE
Hi-wall	18.000	05

Características técnicas: - conforme quadros descritivos constantes nos desenhos técnicos.

Fabricante de referência : York-Hitachi

Alimentação elétrica:

220V/1F + N - Quando o sistema de distribuição de energia for 380/220V.

220V/1F+1F - Quando o sistema de distribuição for 220/127V. Importante: aterrar a carcaça do equipamento para evitar choques elétricos.

4.1.4 - LINHAS DE REFRIGERANTE

Deverão ser executadas em tubos flexíveis de cobre fosforoso, sem costura, flangeados, interligando as unidades evaporadoras ao conjunto condensador, conforme norma NBR 7541-2004 da ABNT.

Deverão ser dimensionadas conforme as recomendações do fabricante dos equipamentos, levando-se em consideração a distância e o desnível entre as unidades.

Quando instaladas entre branches (refnet), deverão ser do tipo rígidos, com espessura de parede de 1/16".

Quando instaladas entre branches e unidades internas, deverão ser do tipo flexíveis, com espessura de parede de 1/32".

As linhas deverão ser isoladas termicamente, com tubos de borracha elastomérica de células fechadas (ref: Armaflex AF tipo M ou equivalente técnico), envolvidas por fita branca de PVC e quando expostas ao tempo, por recobrimento de alumínio liso com 0,75 mm de espessura.

Deverão ser obedecidas rigorosamente as limitações de comprimentos máximos equivalentes e demais regras de instalação recomendados pelo fabricante.

4.1.5 - REDE DE DISTRIBUIÇÃO DE AR

As redes de dutos de insuflamento do ar foram projetadas com velocidades baseadas nas normas NBR 16.401-2008 da ABNT e SMACNA. Serão construídas em chapas de aço galvanizadas de primeira qualidade, nas bitolas recomendadas pela ABNT – NBR 16401-2008, baseadas na maior dimensão da secção transversal.

As junções dos dutos serão perfeitamente vedadas, empregando-se chavetas adequadas para se obter a estanqueidade necessária; preferencialmente deverá ser utilizado o sistema TDC. Todas as junções e costuras e dobras que a galvanização tenha sido danificada terão tratamento anti-corrosivo, a base de cromato de zinco.

Todas as curvas de pequeno raio serão dotadas de veias defletoras para redução das perdas dinâmicas e nível de ruído. As reduções e transformações serão suaves (ângulo máximo – 15 graus)

Os suportes de sustentação dos dutos serão executados perfis de aço do tipo "L" e barras rosqueadas, com proteção anti-corrosiva ou tirantes de chapa perfurada, fixados a estrutura do edifício por meio de chumbadores adequados, observando-se em espaçamento que não provoque deformação nos dutos.

As ligações dos dutos com os ventiladores serão feitas por meio de conexões flexíveisl de lona reforçada (mínimo de 16 onças), não inflamáveis, com comprimento mínimo de 100 mm.

Todas as superfícies internas dos dutos, visíveis através das bocas de ar serão pintadas com tinta preta fosca.

ISOLAMENTO TÉRMICO

O isolamento térmico dos dutos deverá ser feito com painéis ou manta de lã de vidro incombustível com resistência térmica de 1m².°C/W e espessura mínima de 38 mm, com filme de alumínio sobre papel de kraft em um dos lados. O isolamento será colado aos dutos com cola do tipo Rodopás 530 S, ou fixado com fita adesiva e amarrado com cinta e fivelas de alumínio ou plásticas.

4.1.6 – DIFUSORES DE INSUFLAMENTO

Para atendimento da recepção (PD duplo), serão instalados difusores de formato quadrado, de alta indução construídos em perfis de alumínio anodizado, providos de registros reguladores de vazão.

Fabricante de referência : Trox do Brasil

4.1.7 – GRELHAS DE RETORNO

Para o retorno do ar insuflado desde a sala da recepção até os condicionadores built-in, serão instaladas no teto, grelhas de lâminas fixas, construídas em alumínio, providas de registros reguladores de vazão.

Fabricante de referência : Trox do Brasil

4.1.8 - INTERLIGAÇÕES ELÉTRICAS

Compreenderão todas as ligações entre as unidades condensadoras e evaporadoras e entre quadros de alimentação e proteção ou disjuntores fornecidos pela obra ao lado de cada unidade externa e os quadros de comando destas unidades.

Deverão ser executadas segundo as determinações da norma NBR 5410-2005 da ABNT

As pontas dos fios e cabos deverão conter terminais de pressão e anilhas de identificação.

Deverão ser executas em condutores de cobre, conforme a norma NBR7288-1994 da ABNT, com encapamento termoplástico colorido, classe 600 V, com bitolas adequadas para que não ocorram quedas sensíveis de tensão e/ou superaquecimento dos cabos e fios.

Os cabos de comando e alimentação das unidades evaporadoras deverão ser multipolares do tipo “PP” - 2 x 2,5 mm². O caminhamento dos cabos será feito junto com as tubulações de refrigerante,

Os eletrodutos e caixas de passagem deverão ser de PVC, segundo as normas NBR 6233-1984 e NBR 15465-2008, da ABNT.

As ligações finais entre condutores, quadros elétricos e equipamentos, deverão ser em eletrodutos flexíveis do tipo "seal tube".

Os terminais deverão ser fixados por parafusos de latão ou cobre.

Os cabos de comunicação entre as unidades evaporadoras e unidades condensadoras respectivas, deverão ser do tipo shielded, 2 x 1 mm² e serão apoiados nos suportes das unidades e das linhas de refrigerante , afastados o máximo possível dos cabos de alimentação para se evitar interferências no sinal.
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Compreenderão todas as ligações entre as unidades condensadoras e evaporadoras e entre quadros de alimentação e proteção ou disjuntores fornecidos pela obra ao lado de cada unidade externa e os quadros de comando destas unidades.

Deverão ser executadas segundo as determinações da norma NBR 5410-2005 da ABNT

As pontas dos fios e cabos deverão conter terminais de pressão e anilhas de identificação.

Deverão ser executas em condutores de cobre, conforme a norma NBR7288-1994 da ABNT, com encapamento termoplástico colorido, classe 600 V, com bitolas adequadas para que não ocorram quedas sensíveis de tensão e/ou superaquecimento dos cabos e fios.

Os cabos de comando e alimentação das unidades evaporadoras deverão ser multipolares do tipo “PP” - 2 x 2,5 mm². O caminhamento dos cabos será feito junto com as tubulações de refrigerante,

Os eletrodutos e caixas de passagem deverão ser de PVC, segundo as normas NBR 6233-1984 e NBR 15465-2008, da ABNT.

As ligações finais entre condutores, quadros elétricos e equipamentos, deverão ser em eletrodutos flexíveis do tipo "seal tube".

Os terminais deverão ser fixados por parafusos de latão ou cobre.

Os cabos de comunicação entre as unidades evaporadoras e unidades condensadoras respectivas, deverão ser do tipo shielded, 2 x 1 mm² e serão apoiados nos suportes das unidades e das linhas de refrigerante , afastados o máximo possível dos cabos de alimentação, para se evitar interferências no sinal.

4.1.9 – LINHAS DE DRENAGEM

Para retirada da água resultante da condensação da umidade do ar em contato com a serpentina, deverão ser instaladas linhas de drenagem executadas em tubos de PVC soldáveis de diâmetros variáveis, conforme especificados em projeto.

As interligações das linhas com as bandejas dos equipamentos serão feitas com mangueiras flexíveis com espessura de parede suficiente para se evitar dobras que poderão prejudicar o fluxo do condensado.

Caso seja necessário criar uma rede de coleta, observar a bitola adequada. Tais linhas deverão ser isoladas térmicamente, conforme citado no item 4.5, para se evitar possíveis focos de condensação. As linhas deverão descarregar em caixas de brita, conforme projeto.

Para as bitolas de Ø3/4" e Ø1", os tubos deverão ser apoiados sobre perfilados metálicos para se evitar a flexão ("embarrigamento") dos mesmos. Para bitolas maiores deverão ser sustentados por abraçadeiras atirantadas à cobertura do pavimento.

4.1.10 – OPERAÇÃO E CONTROLE

Os condicionadores serão operados por controles remotos sem fio com funções conforme o manual de instalação, operação e manutenção do fabricante.

4.1.11 – CONTROLE DE TEMPERATURA

Para que o sistema de ar condicionado trabalhe de maneira eficiente, o volume adequado de refrigerante deverá ser constantemente controlado de acordo com as exigências das unidades evaporadoras internas. O controle do fluxo de refrigerante será feito por meio da abertura ou fechamento de válvulas de expansão eletrônicas instaladas tanto nas unidades internas como, nas unidades externas, comandadas pela diferença de temperatura entre a entrada e a saída do ar nas unidades internas.

4.1.12 – VÁLVULAS DE BLOQUEIO

Deverão ser fornecidas e instaladas nas linhas de líquido e de sucção junto a cada uma das unidades evaporadoras, válvulas de bloqueio com a finalidade de evitar a perda do refrigerante e preservar as condições ideais de funcionamento no interior das tubulações em caso de retirada para manutenção ou substituição de qualquer uma das unidades internas que compõem o sistema. Deverão ser do tipo BLM da Danfoss ou equivalente técnico.

4.1.13 – INFRAESTRUTURA

As unidades evaporadoras deverão ser penduradas por meio de vergalhões roscados, porcas e arruelas Ø5/16", fixados à laje ou à estrutura de cobertura de cada pavimento. A tubulação de refrigerante deverá ser apoiada sobre perfilados metálicos 38 x 38, espaçados de 2,0 m sustentados por vergalhões roscados Ø1/4", fixados por porcas e arruelas. Os tubos de drenagem com bitolas de Ø3/4" e Ø1" serão alojadas no interior de perfilados metálicos para se evitar ao flexão dos mesmos. A água coletada pelos tubos de drenagem será descarregada em canaletas subterrâneas interligadas à caixas de brita instaladas nos jardins que circundam os blocos.

4.2 - VENTILAÇÃO MECÂNICA

4.2.1- GABINETES DE VENTILAÇÃO

Para renovação de ar dos ambientes climatizados, serão fornecidos e instalados 41 (quarenta e um) gabinetes de ventilação, providos de filtros e interligados à redes de dutos de distribuição de ar e grelhas de insuflamento. Parte do ar será insuflado diretamente nas unidades condicionadoras e parte será insuflada nos ambientes através de grelhas.

Serão constituídas basicamente por:

- Gabinetes em chapas de aço galvanizadas pintadas, com isolamento acústico interno e estrutura em perfis de alumínio.

- Ventiladores com rotores do tipo Sirocco, de dupla aspiração com pás voltadas para frente, com acionamento indireto por motores elétricos a indução, através de polias e correias em V.

- Mancais estática e dinamicamente balanceados.

- Filtros – classes G4.

- Posição de montagem e descarga - horizontais

Características técnicas: - conforme quadros descritivos constantes nos desenhos técnicos.

Fabricante de referência : Otam (Soler & Palau).

Alimentação elétrica: 220V/60 Hz/3F+N - Quando o sistema de distribuição de energia for 220/127V

4.2.2 - REDE DE DISTRIBUIÇÃO DE AR

As redes de dutos de insuflamento do ar foram projetadas com velocidades baseadas nas normas NBR 16.401-2008 da ABNT e SMACNA. Serão construídas em chapas de aço galvanizadas de primeira qualidade, nas bitolas recomendadas pela ABNT – NBR 16401-2008, baseadas na maior dimensão da secção transversal.

As junções dos dutos serão perfeitamente vedadas, empregando-se chavetas adequadas para se obter a estanqueidade necessária; preferencialmente deverá ser utilizado o sistema TDC. Todas as junções e costuras e dobras que a galvanização tenha sido danificada terão tratamento anti-corrosivo, a base de cromato de zinco.

Todas as curvas de pequeno raio serão dotadas de veias defletoras para redução das perdas dinâmicas e nível de ruído. As reduções e transformações serão suaves (ângulo máximo – 15 graus)

Os suportes de sustentação dos dutos serão executados perfis de aço do tipo “L” e barras rosqueadas, com proteção anti-corrosiva ou tirantes de chapa perfurada, fixados

a estrutura do edifício por meio de chumbadores adequados, observando-se em espaçamento que não provoque deformação nos dutos.

As ligações dos dutos com os ventiladores serão feitas por meio de conexões flexíveisl de lona reforçada (mínimo de 16 onças), não inflamáveis, com comprimento mínimo de 100 mm.

Todas as superfícies internas dos dutos, visíveis através das bocas de ar serão pintadas com tinta preta fosca.

4.2.3 – GRELHAS DE INSUFLAMENTO

Serão de formato retangular, com duas camadas de lâminas reguláveis, construídas em perfis de alumínio anodizado, providas de registros reguladores de vazão.

Fabricante de referência : Trox do Brasil

4.3 - EXAUSTÃO MECÂNICA

4.3.1 - EXAUSTORES COMPACTOS

Para exaustão do ar dos sanitários PCD, DMLs e copas, serão fornecidos e instalados 21 (vinte e um) exaustores compactos instalados diretamente nos forros dos ambientes, interligados a dutos flexíveis. O ar exaurido dos sanitários será descarregado em shafts localizados junto às paredes de cada um. O ar exaurido dos DMLs e copas serão descarregados no vazio próximo à estas salas. Caso seja necessária a descarga do ar exaurido em paredes externas, deverão instaladas viseiras anti-chuva com tela na descarga.

Serão constituídas basicamente por:

Exaustor axial de baixo nível sonoro, com comporta anti retorno incorporada, luz piloto de funcionamento, montado sobre “silent-blocks” elásticos.

- Motor, IP45, classe II.

- Protetor térmico

- Temporizador regulável entre 1 e 30 minutos

Características técnicas: - conforme quadros descritivos constantes nos desenhos técnicos.

Fabricante de referência : Otam (Soler & Palau).

Alimentação elétrica:

220V/1F + N - Quando o sistema de distribuição de energia for 380/220V.

220V/1F+1F - Quando o sistema de distribuição for 220/127V. Importante: aterrar a carcaça do equipamento para evitar choques elétricos.

4.3.2 – GRELHAS DE REPOSIÇÃO DE AR.

Serão de formato retangular, com uma camada de lâminas fixas em “V” invertido, com moldura dupla, construídas em perfis de alumínio anodizado, instaladas nas portas de acesso aos sanitários.

Fabricante de referência : Trox do Brasil

5 - MÃO DE OBRA E SUPERVISÃO TÉCNICA

A empresa instaladora deverá fornecer toda a mão de obra para execução dos serviços, feita por pessoal comprovadamente especializado.

As instalações deverão ser supervisionadas por um engenheiro mecânico ou técnico comprovadamente capacitado, que deverá permanecer na obra desde o início até o start up dos equipamentos.

A empresa contratada, no final da obra, deverá apresentar o as built das instalações.

6 - DISPOSIÇÕES COMPLEMENTARES

A empresa instaladora, antes do início dos serviços, deverá apresentar um projeto executivo, para aprovação pela fiscalização. Tal projeto deverá obedecer a filosofia do projeto original, porém poderão ser sugeridas modificações em seu conteúdo, desde que comprovada a sua necessidade. Em caso da não apresentação de tal projeto, ficará subentendido que a empresa instaladora acatou o projeto proposto, assumindo assim, toda a responsabilidade sobre o resultado das instalações executadas.

Deverão ser feitos testes e medições nos equipamentos e os dados anotados em planilhas (check-list) e estas enviadas ao fabricante dos mesmos, para expedição do certificado de garantia.

No término da obra, a empresa instaladora deverá fornecer desenhos contendo modificações e todos os detalhes que porventura não constem no projeto original ("as built"), devidamente acompanhados do manual de operação dos equipamentos e certificados de garantia dos mesmos e da instalação.

A empresa instaladora deverá entregar a obra limpa, livre dos entulhos por ela gerados, que deverão ser retirados do local por meio de transporte próprio.

7 – DESENHO TÉCNICO

Fazem parte integrante deste memorial os seguintes desenhos:

01/11 – Planta baixa 1° pavimento.
02/11 – Planta baixa 2° pavimento
03/11 – Planta baixa 3° pavimento
04/11 – Planta baixa 4° pavimento
05/11 – Planta baixa 5° pavimento
06/11 – Planta baixa 6° pavimento
07/11 – Planta baixa cobertura
08/11 – Árvore de distribuição de refrigerante
Esquema elétrico e de comunicação
1° e 2° pavimentos
09/11 – Árvore de distribuição de refrigerante
Esquema elétrico e de comunicação
3° e 4° pavimentos
10/11 – Árvore de distribuição de refrigerante
Esquema elétrico e de comunicação
5° pavimento
11/11 – Árvore de distribuição de refrigerante
Esquema elétrico e de comunicação
6° pavimento

Cuiabá, 12 de dezembro de 2.023.

EDUARDO DOMINGOS SIMÕES
ENGENHEIRO MECÂNICO
CREA 2.124/D-MT
CONFEA 1207421669