HVAC ACCESSORIES

ACCESSORIES:

1. MOTOR DAMPER
2. ECONOMIZER
3. ROOF CURB
4. HAIL GUARDS
5. INTAKE HOOD
6. VIBRATION ISOLATION
7. FLAT FILTER
8. FILTER/MIXING BOX
9. ACCESS DOOR
10. FLEX CONNECTIONS
11. MOUNTING COLLAR
12. HOT GAS BYPASS
13. FACE/BYPASS DAMPER
14. CONDENSATE PUMP
15. MOTOR GUARD
16. GREASE TRAP
17. DUCT FLANGES
18. BASE RAIL
19. HUMIDIFIER
20. CO2 SENSORS
21. ECON POWERED EXHAUST
22. ECON BAROMETRIC RELIEF
23. HOT GAS REHEAT COIL
24. SHAFT GROUNDING BRUSHES

HVAC DIFFUSERS AND REGISTERS SCHEDULE

TAG	MANUFACTURER	MODEL	FACE	MOUNTING	MATERIAL	FINISH	DAMPER TYPE	BORDER STYLE	REMARKS	DESCRIPTION
CD-1	TITUS	OMNI	24"x24"	CEILING	STEEL	STANDARD WHITE	OPPOSED BLADE	SURFACE MOUNT		
ER-1	TITUS	350RL	8"x8"	CEILING	STEEL	STANDARD WHITE	OPPOSED BLADE	SURFACE MOUNT		
SR-1	TITUS	350FL	6"x6"	CEILING	STEEL	STANDARD WHITE	OPPOSED BLADE	SURFACE MOUNT		
SR-2	TITUS	350FL	6"x6"	CEILING	STEEL	STANDARD WHITE	OPPOSED BLADE	SURFACE MOUNT		
SR-3	TITUS	350FL	10"x10"	CEILING	STEEL	STANDARD WHITE	OPPOSED BLADE	SURFACE MOUNT		

HOT WATER FINNED TUBE SCHEDULE

PRODUCT						GENERAL		HEATING				HYDRONICS	MISC	
MARK	DESCRIPTION	MANUFACTURER	MODEL	OPERATING WEIGHT (LBS)	SECTION NUMBER	AREA SERVED	STATUS	CALC HTG MBH	EHWT	LHWT	HWS (GPM)	FLUID TYPE	MTG TYPE	ACCESSORIES
FTRH-1	HOT WATER FINNED TUBE	MODINE	S-012-18-N	--	23 82 36.00	--	NEW	5	140	120	0.5	WATER	--	10'-8" LENGTH
FTRH-2	HOT WATER FINNED TUBE	MODINE	S-012-18-N	--	23 82 36.00	--	NEW	5	140	120	0.5	WATER	--	12'-0" LENGTH
FTRH-3	HOT WATER FINNED TUBE	MODINE	S-012-18-N	--	23 82 36.00	--	NEW	5	140	120	0.5	WATER	--	4'-6" LENGTH
FTRH-4	HOT WATER FINNED TUBE	MODINE	S-012-18-N	--	23 82 36.00	--	NEW	5	140	120	0.5	WATER	--	4'-0" LENGTH

HVAC LOAD SCHEDULE

THE HEATING AND COOLING LOAD CALCULATIONS ARE BASED ON THE RTS (RADIANT TIME SERIES) METHOD. ASSUMPTIONS AND EXECUTION OF THESE METHODS ARE PER ASHRAE 183-2007 STANDARD FOR PEAK COOLING AND HEATING LOAD CALCULATIONS IN BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS.

COOLING LOAD BREAKDOWN -
SUMMER DESIGN DB TEMP: 81 F,
SUMMER DESIGN WB TEMP: 81 F

HEATING LOAD BREAKDOWN -
WINTER DESIGN DB TEMP: -50 F

- CROOF — SENSIBLE HEAT GAIN FROM ROOF
- CWALL — SENSIBLE HEAT GAIN FROM EXTERIOR WALLS
- CPART — SENSIBLE HEAT GAIN FROM PARTITIONS
- CGLASS — SENSIBLE HEAT GAIN FROM GLAZING
- CSOLAR — SENSIBLE HEAT GAIN FROM SOLAR GAIN THROUGH GLAZING
- CLIGHTS — SENSIBLE HEAT GAIN FROM INTERIOR LIGHTING
- CEQUIP — SENSIBLE HEAT GAIN FROM PLUG LOADS, COMPUTERS, ETC.
- CPSENS — SENSIBLE HEAT GAIN FROM PEOPLE
- CSSENS — TOTAL SENSIBLE HEAT GAIN TO SPACE
- CFAN — SENSIBLE HEAT GAIN FROM AIR HANDLER FAN
- COAS — SENSIBLE HEAT GAIN FROM OUTDOOR VENTILATION AIR
- CTSENS — TOTAL SENSIBLE HEAT GAIN
- CPLAT — LATENT HEAT GAIN FROM PEOPLE
- COAL — LATENT HEAT GAIN FROM OUTDOOR VENTILATION AIR
- CTLAT — TOTAL LATENT HEAT GAIN
- CTOT — TOTAL HEAT GAIN (SENSIBLE + LATENT)
- HROOF — HEAT LOSS FROM ROOF
- HWALL — HEAT LOSS FROM EXERIOR WALLS
- HPART — HEAT LOSS FROM PARTITIONS
- HGLASS — HEAT LOSS FROM GLAZING
- HSLAB — HEAT LOSS FROM SLAB
- HSPACE — TOTAL SENSIBLE HEAT LOSS FROM SPACE
- HOA — HEAT LOSS FROM OUTDOOR VENTILATION AIR
- HTOT — TOTAL HEAT LOSS

EQUIPMENT NAME	ZONE	CROOF	CWALL	CPART	CGLASS	CSOLAR	CLIGHTS	CEQUIP	CPSENS	CSSENS	CFAN	COAS	CTSENS	CPLAT	COAL	CTLAT	CTOT	HROOF	HWALL	HPART	HGLASS	HSLAB	HSPACE	HOA	HTOT
EX-WSHP-1-3	1	0	0.13	0	0.46	14.52	3.36	3.1	7.5	29.07	0	0	29.07	6	0	6	35.07	0	1.88	0	8.79	0	10.67	0	10.67
EX-WSHP-1-5	2	0	0.12	0	0.67	5.76	6.47	0.84	5.25	19.11	0	0	19.11	4.2	0	4.2	23.31	0	1.78	0	12.97	0	14.75	0	14.75
EX-DS-2	11	0	0.07	0	0.1	3.18	1.43	0.67	0.5	5.95	0	0	5.95	0.4	0	0.4	6.35	0	1.07	0	1.92	0	2.99	0	2.99
EX-DS-1	12	0	0	0	0.04	1.27	0.49	0	0.25	2.05	0	0	2.05	0.2	0	0.2	2.25	0	0	0	0.77	0	0.77	0	0.77
VRF-1	4	0	0.06	0	0.09	0.78	0.49	0.58	0.25	2.25	0.04	0	2.29	0.2	0	0.2	2.49	0	0.84	0	1.76	0	2.6	0	2.6
VRF-2	5	0	0.06	0	0.14	1.17	0.78	0.83	0.25	3.22	0.06	0	3.28	0.2	0	0.2	3.48	0	0.82	0	2.64	0	3.46	0	3.46
VRF-3	7	0	0.03	0	0.09	0.78	0.33	2.45	0.25	3.93	0.07	0	4	0.2	0	0.2	4.2	0	0.43	0	1.76	0	2.19	0	2.19
VRF-4	8	0	0	0	0	0	0.12	0.67	0.25	1.04	0.02	0	1.06	0.2	0	0.2	1.26	0	0	0	0	0	0	0	0
VRF-5	9	0	0	0	0	0	2.54	1.44	7.5	11.48	0.21	0	11.69	6	0	6	17.69	0	0	0	0	0	0	0	0
VRF-6	10	0	0.03	0	0.04	1.18	0.54	0.62	0.25	2.65	0.05	0	2.7	0.2	0	0.2	2.9	0	0.5	0	0.71	0	1.21	0	1.21

HVAC VENT SCHEDULE

NUMBER	NAME	AREA	LEVEL	CEILING HEIGHT	AIR CHANGES	OA CHANGES	# OF PEOPLE	OA PER PERSON	OA PER SQFT	REQ SA	ACT SA	REQ OA	ACT OA	ACT RETURN	ACT EXH	CRIT OA%	PRESSURE	% OPERABLE	NATURAL VENTILATION
100	VEST.	151	FIRST FLOOR - UPPER	9 2/5	0	0	0	0	0.06	235	235	9	9	235	0	0	NEUTRAL	0	--
101	VISITOR	35	FIRST FLOOR - UPPER	9 2/5	0	0	0	0	0.06	10	10	2	2	10	0	0	NEUTRAL	0	--
104	SRO	97	FIRST FLOOR - UPPER	8 4/5	0	0	1	5	0.06	110	110	11	11	110	0	0	NEUTRAL	0	--
105	PRINCIPAL	126	FIRST FLOOR - UPPER	8 4/5	0	0	1	5	0.06	155	155	13	13	155	0	0	NEUTRAL	0	--
106	RR	26	FIRST FLOOR - UPPER	8 4/5	0	0	0	0	0	10	10	0	0	0	80	0	NEGATIVE	0	--
107	STOR	18	FIRST FLOOR - UPPER	8 9/10	0	0	1	5	0.06	20	20	6	6	20	0	0	NEUTRAL	0	--
108	ADA RR	47	FIRST FLOOR - UPPER	8 4/5	0	0	0	0	0	175	175	0	0	0	80	0	POSITIVE	0	--
110 (1)	PA	23	FIRST FLOOR - UPPER	8 4/5	0	0	1	5	0.06	55	55	6	6	55	0	0	NEUTRAL	0	--
112 (1)	LOBBY	723	FIRST FLOOR - UPPER	8 4/5	0	0	11	5	0.06	315	315	98	98	315	0	0	NEUTRAL	0	--
113 (1)	OPEN OFFICE	497	FIRST FLOOR - UPPER	9 1/5	0	0	30	5	0.12	560	560	210	210	560	0	0	NEUTRAL	0	--
115 (1)	OFFICE	105	FIRST FLOOR - UPPER	8 9/10	0	0	1	5	0.06	130	130	11	11	130	0	0	NEUTRAL	0	--
116	OPEN OFFICE	280	FIRST FLOOR - UPPER	8 9/10	0	0	2	5	0.06	295	295	27	27	295	0	0	NEUTRAL	0	--
117 (1)	ADV. STORAGE	96	FIRST FLOOR - UPPER	8 9/10	0	0	1	5	0.06	100	100	11	11	100	0	0	NEUTRAL	0	--
118 (1)	FACULTY	314	FIRST FLOOR - UPPER	8 9/10	0	0	10	5	0.12	365	365	88	88	365	0	0	NEUTRAL	0	--
119	ADA RR	42	FIRST FLOOR - UPPER	8 4/5	0	0	0	0	0	15	15	0	0	0	80	0	NEGATIVE	0	--
122	STUDENT CAFE	657	FIRST FLOOR - UPPER	8 7/10	0	0	30	5	0.12	1420	1420	229	229	1420	0	0	NEUTRAL	0	--

TOTAL AREA: 3237 SF

VRF INDOOR UNIT SCHEDULE

PRODUCT						GENERAL				AIRFLOW						COOLING							HEATING			ELECTRICAL	MISC	ELECTRICAL																PRODUCT
MARK	DESCRIPTION	MANUFACTURER	MODEL	OPERATING WEIGHT (LBS)	SECTION NUMBER	AREA SERVED	FED FROM	STATUS	INDOOR EQUIP STYLE	SA (CFM)	OA (CFM)	ESP (IN. W.C.)	SF SPEED (RPM)	SF MTR SPEED (RPM)	DESIGN ESP (IN. W.C.)	NOM CLG CAP (TON)	TOTAL CALC CLG MBH	CALC SENS CLG MBH	EAT DB CLG	EAT WB CLG	LAT DB CLG	LAT WB CLG	CALC HTG MBH	EAT HTG	LAT HTG	EMERGENCY	ACCESSORIES	CONNECTION MARK	ELECTRIC CONNECTION SUMMARY	CN TYPE	CN FURNISHED BY	CN INSTALLED BY	CN WIRED BY	MC TYPE	MC FURNISHED BY	MC INSTALLED BY	MC WIRED BY	DC TYPE	DC FURNISHED	DC INSTALLED BY	DC WIRED BY	FA SHUTDOWN	FAULT CURRENT	MARK
VRF-1-1	VRF INDOOR UNIT	DAIKIN	FXZQ07TAVJU	35	23 81 26.00	--	--	NEW	CASSETTE	110	--	0.75	--	--	--	0.6	2.49	2.29	76	64	55	54	2.6	70	90	NO	--	VRF-1-1	VRF-1-1 - 208V/1PH, 0.3 MCA, 15A OCP	LOW	HC	HC	HC	MG	MFR	MFR	MFR	--	EC	EC	EC	NONE	VRF-1-1: 2410	VRF-1-1
VRF-1-2	VRF INDOOR UNIT	DAIKIN	FXZQ07TAVJU	35	23 81 26.00	--	--	NEW	CASSETTE	165	--	0.75	--	--	--	0.6	3.48	3.28	76	64	55	54	3.46	70	90	NO	--	VRF-1-2	VRF-1-2 - 208V/1PH, 0.3 MCA, 15A OCP	LOW	HC	HC	HC	MG	MFR	MFR	MFR	--	EC	EC	EC	NONE	VRF-1-2: 2090	VRF-1-2
VRF-1-3	VRF INDOOR UNIT	DAIKIN	FXZQ07TAVJU	35	23 81 26.00	--	--	NEW	CASSETTE	195	--	0.75	--	--	--	0.6	4.2	4	76	64	55	54	2.19	70	90	NO	--	VRF-1-3	VRF-1-3 - 208V/1PH, 0.3 MCA, 15A OCP	LOW	HC	HC	HC	MG	MFR	MFR	MFR	--	EC	EC	EC	NONE	VRF-1-3: 2559	VRF-1-3
VRF-1-4	VRF INDOOR UNIT	DAIKIN	FXZQ07TAVJU	35	23 81 26.00	--	--	NEW	CASSETTE	55	--	0.75	--	--	--	0.6	1.26	1.06	76	64	55	54	--	70	90	NO	--	VRF-1-4	VRF-1-4 - 208V/1PH, 0.3 MCA, 15A OCP	LOW	HC	HC	HC	MG	MFR	MFR	MFR	--	EC	EC	EC	NONE	VRF-1-4: 2192	VRF-1-4
VRF-1-5	VRF INDOOR UNIT	DAIKIN	FXZQ24TAVJU	50	23 81 26.00	--	--	NEW	CASSETTE	560	--	0.75	--	--	--	2	17.69	11.69	76	64	55	54	--	70	90	NO	--	VRF-1-5	VRF-1-5 - 208V/1PH, 0.7 MCA, 15A OCP	LOW	HC	HC	HC	MG	MFR	MFR	MFR	--	EC	EC	EC	NONE	VRF-1-5: 2379	VRF-1-5
VRF-1-6	VRF INDOOR UNIT	DAIKIN	FXZQ07TAVJU	35	23 81 26.00	--	--	NEW	CASSETTE	130	--	0.75	--	--	--	0.6	2.9	2.7	76	64	55	54	1.21	70	90	NO	--	VRF-1-6	VRF-1-6 - 208V/1PH, 0.3 MCA, 15A OCP	LOW	HC	HC	HC	MG	MFR	MFR	MFR	--	EC	EC	EC	NONE	VRF-1-6: 1921	VRF-1-6

VRF OUTDOOR, AIR COOLED UNIT SCHEDULE

PRODUCT						GENERAL		COOLING						HEATING			DESIGN CONDITIONS			ELECTRICAL	MISC	ELECTRICAL																PRODUCT
MARK	DESCRIPTION	MANUFACTURER	MODEL	OPERATING WEIGHT (LBS)	SECTION NUMBER	AREA SERVED	STATUS	NOM CLG CAP (TON)	TOTAL CALC CLG MBH	CALC SENS CLG MBH	MIN SEER	MIN EER	MIN IEER	CALC HTG MBH	MIN COP	NOM HTG CAP (KW)	SUM OAT DB	SUM OAT WB	WIN OAT DB	EMERGENCY	ACCESSORIES	CONNECTION MARK	ELECTRIC CONNECTION SUMMARY	CN TYPE	CN FURNISHED BY	CN INSTALLED BY	CN WIRED BY	MC TYPE	MC FURNISHED BY	MC INSTALLED BY	MC WIRED BY	DC TYPE	DC FURNISHED	DC INSTALLED BY	DC WIRED BY	FA SHUTDOWN	FAULT CURRENT	MARK
HP-1-1	VRF OUTDOOR, AIR COOLED UNIT	DAIKIN	REYQ72AATJB	510	23 81 26.00	ADMIN. OFFICE	NEW	4.5	52.2	--	--	12.2	21.0	58.5	3.8	--	93	80	-50	NO	--	HP-1-1	HP-1-1 - 208V/3PH, 27.3 MCA, 30A OCP	LOW	HC	HC	HC	MG	MFR	MFR	MFR	--	EC	EC	EC	NONE	HP-1-1: 3090	HP-1-1

VRF BRANCH SELECTOR BOX SCHEDULE

PRODUCT						GENERAL		ELECTRICAL																PRODUCT
MARK	DESCRIPTION	MANUFACTURER	MODEL	OPERATING WEIGHT (LBS)	SECTION NUMBER	AREA SERVED	STATUS	CONNECTION MARK	ELECTRIC CONNECTION SUMMARY	CN TYPE	CN FURNISHED BY	CN INSTALLED BY	CN WIRED BY	MC TYPE	MC FURNISHED BY	MC INSTALLED BY	MC WIRED BY	DC TYPE	DC FURNISHED	DC INSTALLED BY	DC WIRED BY	FA SHUTDOWN	FAULT CURRENT	MARK
BS-1-1	VRF BRANCH SELECTOR BOX	DAIKIN	BSF6Q54TVJ	73	23 81 26.00	ADMIN. OFFICE	NEW	BS-1-1	BS-1-1 - 208V/1PH, 0.6 MCA, 15A OCP	LOW	HC	HC	HC	MG	MFR	MFR	MFR	--	EC	EC	EC	NONE	BS-1-1: 3242	BS-1-1

ELECTRIC UNIT HEATER SCHEDULE

PRODUCT						GENERAL		HEATING	ELECTRICAL	MISC	ELECTRICAL																PRODUCT
MARK	DESCRIPTION	MANUFACTURER	MODEL	OPERATING WEIGHT (LBS)	SECTION NUMBER	AREA SERVED	STATUS	CALC HTG MBH	EMERGENCY	ACCESSORIES	CONNECTION MARK	ELECTRIC CONNECTION SUMMARY	CN TYPE	CN FURNISHED BY	CN INSTALLED BY	CN WIRED BY	MC TYPE	MC FURNISHED BY	MC INSTALLED BY	MC WIRED BY	DC TYPE	DC FURNISHED	DC INSTALLED BY	DC WIRED BY	FA SHUTDOWN	FAULT CURRENT	MARK
ECH-1	ELECTRIC UNIT HEATER	QMARK	EFF1500	23	23 82 39.00	VISITOR-101	NEW	5	NO	--	ECH-1	ECH-1 - 120V/1PH, 1.5KW HTG, 12.5A FLA	LOW	HC	HC	HC	MG	MFR	MFR	MFR	--	EC	EC	EC	NONE	ECH-1: 1414	ECH-1

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Revised:

#	Date	Description

MECHANICAL SCHEDULES

M601

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