

### AIR COOLED SCROLL CHILLER SCHEDULE

PLAN MARK	BASIS OF DESIGN	MODEL	NOMINAL TONS	MAX. KW INPUT	IPLV	EER	ELECTRIC REQUIREMENTS			EVAPORATOR				SCROLL COMPRESSOR		CONDENSER		REFRIG. TYPE			
							VOLTS / PHASE	MCA (AMPS)	REC. FUSE (AMPS)	EWT (°F)	LWT (°F)	GPM DESIGN	PD. FT. DESIGN	GPM MIN.	PD. FT. MIN. FLOW	QTY.	REF. CIRCUITS		EAT (°F)	MIN. AMBIENT TEMP. (°F)	QTY/HP FANS
CH-1	TRANE	CGAM	120	133.9	15.87	10.13	153	273	300	56.0	42.0	193	7.2	136	6.0	4	2	95.0	95.0	8 @ 13	R410A

**GENERAL NOTES**

- PROVIDE SINGLE POINT 400/3 POWER CONNECTION FOR EACH CHILLER. ELECTRICAL CONTRACTOR TO PROVIDE SEPARATE 120/1 15 AMP CIRCUIT. SEE ELECTRICAL DRAWINGS.
- PROVIDE A FACTORY INSTALLED CIRCUIT BREAKER WITH 65,000 AIC SHORT CIRCUIT RATING FOR CHILLER AND FOR EACH COMPRESSOR ON THE ELECTRICAL CIRCUIT.
- PROVIDE BACNET MSTP OR IP COMMUNICATION MODULE (COORDINATE WITH BAS VENDOR) WITH FACTORY INSTALLED AND WIRED CONTROL POWER TRANSFORMER FOR CONTROL POWER.
- PROVIDE FACTORY INSTALLED FLOW SWITCH AND STRAINER WITH BLOW-DOWN VALVE.
- PROVIDE 1-1/2" THICK CLOSED CELL FOAM INSULATION ON SIZED PLATE OR SHELL AND TUBE EVAPORATOR.
- PROVIDE CHILLER ELECTRICAL CABINET SUITABLE FOR 125 DEGREE AMBIENT OPERATION AND COOLING FAN ALONG WITH LOW AMBIENT OPERATION. CAPABILITY TO 20 DEGREES AMBIENT AND VFD OPERATED CONDENSER FAN FOR LOW AMBIENT CONTROL.
- PROVIDE CONDENSER COILS AND BASE FRAME GRILLES.
- PROVIDE PHASE AND UNDER/OVER VOLTAGE PROTECTION.
- PROVIDE ELECTRONIC EXPANSION VALVE.
- PROVIDE START-UP SERVICE BY MANUFACTURER'S REPRESENTATIVE.
- PROVIDE MANUFACTURER'S 5 YEAR PARTS, LABOR AND REFRIGERANT CHILLER WARRANTY.
- PROVIDE A CONDENSER COIL COATING WITH A MINIMUM OF 5,000 HOURS IN THE ASTM B-117 SALT SPRAY TEST. COATING MAY NOT DECREASE HEAT TRANSFER BY MORE THAN 1%.
- PROVIDE 10 YEAR COMPRESSOR REPLACEMENT WARRANTY BY MANUFACTURER.
- PROVIDE SUPPORTS FOR ATTACHMENT TO CONCRETE PAD AND WITH HURRICANE TIE DOWNS FOR A WIND LOAD OF 180 MPH. CALCULATIONS TO BE STAMPED BY A REGISTERED FLORIDA PROFESSIONAL STRUCTURAL ENGINEER.
- PROVIDE WITH PUMP PACKAGE INCLUDING DUAL ARM PUMP WITH MINIMUM 85FT. CAPABILITY HEAD, EXPANSION TANK.

### DUAL PATH CHILLED WATER AIR HANDLING UNIT SCHEDULE

PLAN MARK	AREA SERVED	UNIT LOCATION	BASIS OF DESIGN	AIRFLOWS		SUPPLY FAN				OUTSIDE AIR PREHEATING CAPACITY				AIR DATA				WATER DATA												
				SUPPLY AIR		OUTSIDE AIR		FAN SYSTEM TYPE	E.S.P. (IN)	T.S.P. (IN)	FAN RPM	BRAKE / MOTOR HP (PER FAN)	ELEC.	VFD (QTY)	VFD LOCATION	COIL QTY.	AIR FLOW (CFM)	DESIGN CONDITIONS		TOTAL CAPACITY (TONS)	MAX. FV (FPM)	MAX. ROWS & FINS PER IN	MAX. AIR SP LOSS (IN)	TOTAL GPM CHW	CH. WATER ENT. L.V.G. (°F)	MAX. WATER PD (FT)				
				SELECT CFM	BALANCE CFM	SELECT CFM	BALANCE CFM											ENTERING DB/WB (°F)	LEAVING DB/WB (°F)								63	125	250	500
AHU-1	FIRST FLOOR	MECH ROOM	TRANE	11,325	11,325	3,555	3,555	DIRECT DRIVE	2.5	5.0	2378	17.8 / 20	4803/60	2	WALL MOUNTED	1	3,555	91.0	80.0	51.0	50.5	216.0	91.6	350	8 / 10	0.80	52.0	42.0	56.0	15.0
AHU-2	STAGE	MECH ROOM	TRANE	7,445	7,445	2,110	2,110	DIRECT DRIVE	2.0	4.2	3786	5.6 / 6	4803/60	2	WALL MOUNTED	1	7,445	91.0	80.0	51.0	50.5	216.0	91.6	350	8 / 10	0.80	30.9	42.0	56.0	15.0
AHU-3	AUDITORIUM	MECH ROOM	TRANE	6,925	6,925	2,620	2,620	DIRECT DRIVE	2.0	4.6	2884	10.0 / 15	4803/60	2	WALL MOUNTED	1	6,925	91.0	80.0	51.0	50.5	268.2	113.7	350	8 / 10	0.80	38.3	42.0	56.0	15.0

### CONTINUED

PLAN MARK	COIL QTY.	AIR FLOW (CFM)	DESIGN CONDITIONS		RETURN COOLING COIL CAPACITY		AIR DATA		WATER DATA			UNIT DISCHARGE SOUND DATA PER AHRI 260 (SUPPLY/RETURN)								OPERATING WEIGHT (LBS)				
			ENTERING DB/WB (°F)	LEAVING DB/WB (°F)	TOTISEN'S CAPACITY (TONS)	CFM (UHR)	MAX. FV (FPM)	MAX. ROWS & FINS PER IN	MAX. AIR SP LOSS (IN)	TOTAL GPM CHW	CH. WATER ENT. L.V.G. (°F)	MAX. WATER PD (FT)	63	125	250	500	1K	2K	4K		8K			
AHU-1	1	7,770	75.0	62.5	54.0	53.5	202.3	177.0	450	8 / 10	0.80	25.3	42.0	58.0	10.0	91	85	86	92	85	86	81	72	3,130
AHU-2	1	5,335	75.0	62.5	54.0	53.5	121.6	121.6	450	8 / 10	0.80	17.4	42.0	58.0	10.0	83	83	81	86	80	80	81	78	2,096
AHU-3	1	4,305	75.0	62.5	54.0	53.5	121.6	98.1	450	8 / 10	0.80	14.0	42.0	58.0	10.0	85	80	81	85	78	76	73	67	2,831

**GENERAL NOTES**

- PROVIDE UNIT WITH DIRECT DRIVE PLENUM FANS.
- EXTERNAL STATIC AIR PRESSURE LOSS EXCLUDES ALL FILTERS. ALL FANS TO BE SIZED FOR THE TOTAL STATIC PRESSURE LOSS RATING TO INCLUDE MID-LIFE WINDER CONDITION OF EACH FILTER BANK (0.5" FOR MERV 8, 1.0" FOR MERV 14).
- FACE VELOCITIES AS SCHEDULED FOR EACH INDIVIDUAL UNIT AND SECTION OF UNIT IS THE MAXIMUM VELOCITY ALLOWED.
- CAPACITIES SHOWN ARE MINIMUM. AIR AND WATER PRESSURE LOSS ARE MAXIMUM.
- PROVIDE IN DIRECTION OF AIRFLOW 2" DEEP MERV 8 PRE-FILTERS WITH 4" DEEP MERV 14 FILTERS. ALL FILTERS SHALL BE CERTIFIED PER ASHRAE 52.2 AND BE UL LISTED CLASS I OR II PER UL STANDARD 900. PROVIDE FILTER GAUGE FLUSH MOUNTED BY FACTORY.
- PROVIDE STAINLESS STEEL IAQ DRAIN IAQ AND STAINLESS STEEL COIL CASINGS.
- ALL AIR HANDLING UNITS SHALL BE PROVIDED WITH PAINTED GALVANIZED STEEL EXTERIOR CONSTRUCTION MEETING ASTM F1552 1-HOUR SALT SPRAY TEST. CABINET CONSTRUCTION SHALL BE 2" OR 3" THICK DOUBLE WALL CONSTRUCTION WITH INJECTED FOAM INSULATION RESULTING IN AN R-13 CASING VALUE AND MIN. 6" HIGH PAINTED BASE RAIL.
- PROVIDE BACKDRAFT DAMPERS FOR EACH FAN WHEN MULTIPLE FANS ARE SCHEDULED. FAN SHALL UNLOAD FROM LISTED CFM DOWN TO 30% OF LISTED CFM WITHOUT CROSSING THE UNSTABLE LINE ON THE FAN CURVE.
- PROVIDE SMOKE DETECTORS ON SUPPLY AND RETURN DUCTWORK TO SHUT DOWN THE FAN ENTIRE UNIT.
- PROVIDE WITH SINGLE POINT 400/3/60 ELECTRICAL CONNECTION FOR EACH MOTOR WITH SINGLE POINT 120/1/60 LIGHTS IN THE FAN SECTION.
- PROVIDE WITH UNIT MOUNTED OUTSIDE AIR AND RETURN AIR DAMPERS UNLESS SHOWN OTHERWISE ON ENLARGED PLANS.
- PROVIDE WITH FACTORY INSTALLED PRESSURE TAPS AT EACH ACCESS DOORS.
- ALL UNITS THAT ARE FLOOR MOUNTED TO HAVE INTEGRAL PAINTED 6" BASE RAIL WITH HEAVY DUTY ENLARGED PLANS FOR LOCATIONS. COORDINATE UNIT SECTION DIMENSIONS, HANDLING, FAN DISCHARGE ORIENTATION, PIPING AND ELECTRICAL CONNECTION.
- PROVIDE UNIT WITH INVERTER DUTY MOTOR WITH FACTORY MOUNTED AEGIS SHAFT GROUND SPRINGS.
- FAN MOTOR WIRING IS TO BE IN CONDUIT WIRED TO AN EXTERIOR NEMA 4 JUNCTION BOX.
- VARIABLE FREQUENCY DRIVES PROVIDED FOR AIR HANDLING UNITS SHALL MATCH MAKE AND MODEL OF VARIABLE FREQUENCY DRIVES PROVIDED FOR EXHAUST FANS, PUMPS, AND ANY OTHER EQUIPMENT WITH VFDs.
- VARIABLE FREQUENCY DRIVES TO BE LOCATED IN MECHANICAL ROOMS. REFER TO ELECTRICAL DRAWINGS AND COORDINATE FINAL LOCATIONS WITH OTHER TRADES.
- PROVIDE MINIMUM 18" ACCESS SECTIONS AFTER EACH COOLING COIL SECTION. PROVIDE DOORS ON ACCESS SECTIONS ON EACH SIDE OF AHU.

### ENERGY RECOVERY VENTILATOR SCHEDULE

PLAN MARK	AREA SERVED	UNIT LOCATION	BASIS OF DESIGN	ERV TYPE	AIRFLOWS		PERFORMANCE						UNIT MAXIMUM DIMENSIONS			OPERATING WEIGHT (LBS)				
					EXHAUST AIR	OUTSIDE / SUPPLY AIR	SUMMER			WINTER			L (IN)	W (IN)	H (IN)					
							ENTERING DB/WB (°F)	LEAVING DB/WB (°F)	EFF. %	ENTERING DB/WB (°F)	LEAVING DB/WB (°F)	EFF. %								
ERV-2-1	STAGE	MECH ROOM	RENEWAIRE	PLATE/ CORE	1,700	2,110	91.0	80.0	80.5	71.8	61.1	36.0	31.7	58.3	46.5	71.0	62	35	35	430
ERV-3-1	AUDITORIUM	MECH ROOM	RENEWAIRE	PLATE/ CORE	2,305	2,620	91.0	80.0	80.0	71.3	59.7	36.0	31.7	59.4	47.1	68.9	82	35	35	531

**GENERAL NOTES**

- BASIS OF DESIGN: RENEWAIRE CA-3KJIN-D-N & CA-4KJIN-S-N
- UNIT SUMMER PERFORMANCE BASED ON 75 DB AND 50% RH RETURN AIR CONDITIONS. WINTER PERFORMANCE BASED ON 70 DB AND 50% RH RETURN AIR CONDITIONS.
- THE ERV SHALL BE AHRI 1060 CERTIFIED FOR PERFORMANCE AND FOR 0% EAIR AT BALANCED AIRFLOW.
- UNIT SHALL MEET UL STANDARD 1812 FOR DUCTED AIR TO AIR HEAT EXCHANGERS.

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**VOLT AIR**

THESE ITEMS ARE ELECTRICALLY INSTALLED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES. THESE ITEMS ARE NOT TO BE USED IN HAZARDOUS LOCATIONS UNLESS SPECIFICALLY APPROVED BY THE MANUFACTURER.

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**PERMIT SET**

05/06/2020

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NO.	DATE	NOTES

SHEET NAME

SCHEDULES - HVAC

SHEET NUMBER  
**M8.1**