PACKAGED AIR CONDITIONING UNIT SCHEDULE (W/ REMOTE CONDENSER)

UNIT NO.	TOTAL CAPACITY MBTUH	SENSIBLE CAPACITY MBTUH	CFM	OA CFM	EAT-°F		LAT-°F		VOLTAGE V/PH./HZ.	MOTOR MCA/MOP	EXT. SP ("W.G.)	MAX FAN H.P.	UNIT DESIGN BASIS MANUFACTURER MODEL	UNIT WEIGHT LBS
					DB	WB	DB	WB						
ACU-1	386.59	257.90	9,580	2,000	77.30	65.70	53.67	52.68	208/3/60	172.00/ 225.00	2.50	15	TRANE SCRGR3262	3000

NOTES (ALL APPLICABLE):

1. UNIT SHALL BE INTERNALLY ISOLATED.
2. TOTAL FAN S.P. TO ACCOMMODATE MID-LIFE FILTER CONDITION.
3. PROVIDE ADJUSTABLE SUPPLY FAN SHEAVES.
4. PROVIDE STANDARD 2" THROWAWAY FILTERS.
5. SINGLE POINT POWER ENTRY.
6. UNIT SHALL BE MODULAR DOUBLE WALL VERTICAL DISCHARGE CONSTRUCTION
7. PROVIDE HOT GAS BYPASS TO MAINTAIN DISCHARGE AIR TEMERATURES ON LEAVING SIDE OF EVAPORATOR COIL WITHOUT COMPRESSOR SHORT CYCLING OR COIL ICE UP.
8. PROVIDE STAINLESS STEEL DOUBLE SLOPE DRAIN PAN
9. FAN MOTOR 208/3ø
10. PROVIDE 407A REFRIGERANT.
11. PROVIDE EXPANSION VALVES PER CIRCUIT.
12. PROVIDE VFD WITH DISCONNECT SWITCH.
13. PROVIDE STATIC PRESSURE AND TEMPERATURE SENSORS TO BE FIELD MOUNTED.
14. UNIT SHALL HAVE A COMPLETE CONTROL SYSTEM TO OPERATE THE PACKAGED UNIT.
15. EQUIPMENT MANUFACTURE SHALL VERIFY EQUIPMENT DIMENSIONS FOR PROPER FIT IN MECHANICAL ROOM PRIOR TO BID.
16. PROVIDE SOLID NEOPRENE ISOLATION PADS UNDER UNIT.
17. ALL DUCT TIE IN POINTS SHALL HAVE FLEXIBLE CONNECTORS. INSULATE CONNECTOR TO PREVENT CONDENSATION.
18. PROVIDE SERVICE DISCONNECT SWITCH.
19. EQUIPMENT MANUFACTURE SHALL SIZE REFRIGERANT LINES FOR PROPER OPERATION. SUBMIT SHOP DRAWING.
20. UNIT SHALL HAVE A COMPLETE CONTROL SYSTEM TO MAINTAIN A DISCHARGE AT SETTINGS. REFER TO HVAC CONTROL SEQUENCE.
21. INTERLOCK W/ BAS FOR FULL CONTROL AND MONITORING. PROVIDE BACKNET OR LONWORKS GATEWAY.
22. STANDARD HEIGHT DISCHARGE PLENUM
23. PROVIDE SERVICE VALVES FOR COMPRESSOR MAINTENANCE

AIR COOLED CONDENSER SCHEDULE

UNIT NO.	TOTAL CAPACITY MBTUH	EAT-°F (DB)	No. OF FANS	VOLTAGE V/PH./HZ.	MCA	UNIT DESIGN BASIS	UNIT WEIGHT LBS
ACU-1	32 TON NOMINAL	95'	4	208/3/60	20.7	TRANE CCRC0326	2500

NOTES (ALL APPLICABLE):

1. PROVIDE SUCTION LINE DRYER.
2. UNIT MANUFACTURER TO SIZE REFRIGERANT PIPE FOR COMPLETE SYSTEM. SUBMIT SHOP DRAWING.
3. AMBIENT CONDITIONS 95°F.
4. PROVIDE LOW AMBIENT CONTROL @ 0°F.
5. PROVIDE SPRING ISOLATOR PADS.
6. PROVIDE SERVICE DISCONNECT SWITCH.
7. PROVIDE LOUVERED PANEL COIL GUARD.
8. PROVIDE 407A REFRIGERANT.

VAV SCHEDULE

TAG	COOLING		HEATING DEMAND	TEMP. RISE	ELEC. DATA	DISHARGE AIR TEMP
	MAX. CFM	MIN. CFM	(KW)	(°F)		(°F)
VAV1-1	800	400	6.4	48	208/3/60	101
VAV1-2	400	400	4.2	32	208/3/60	86
VAV1-3	400	400	4.2	32	208/3/60	86
VAV1-4	400	400	4.2	32	208/3/60	86
VAV2-1	1,100	480	6.9	45	208/3/60	98
VAV2-2	400	200	2.9	45	208/3/60	98
VAV2-3	400	200	2.9	45	208/3/60	98
VAV2-4	400	200	2.9	45	208/3/60	98
VAV2-5	940	470	5.6	38	208/3/60	91
VAV2-6	810	405	5.4	42	208/3/60	95
VAV2-7	300	105	1.4	43	208/3/60	96
VAV2-8	325	163	2.3	43	208/3/60	97
VAV2-9	300	150	2.0	43	208/3/60	96
VAV2-10	300	150	2.0	43	208/3/60	96
VAV2-11	300	150	2.0	43	208/3/60	96
VAV2-12	300	150	2.0	43	208/3/60	96
VAV2-13	300	150	2.0	43	208/3/60	98
VAV2-14	150	75	1.1	44	208/3/60	97
VAV2-15	400	200	1.4	37	208/3/60	90
VAV2-16	150	50	--	--	208/3/60	--
VAV2-17	225	75	1.0	40	208/3/60	93
VAV2-18	400	200	1.8	36	208/3/60	89
VAV2-19	250	125	2.1	38	208/3/60	91
VAV2-20	200	75	--	--	208/3/60	--

NOTES:

1. DESIGN BASED ON NAILOR MODEL 30000RE
2. DDC CONTROLLER PROVIDED BY CONTROL CONTRACTOR AND INSTALLED BY THE FACTORY
3. PROVIDE FACTORY INSTALLED TRANSFORMER 208V/24V.
4. EACH UNIT SHALL BE TAGGED FROM THE FACTORY WITH THE CORRESPONDING "TAG" IDENTIFICATION.
5. MAX. AIR PRESSURE DROP THRU VAV BOX/ MOTOR SHALL BE 0.35" W.G.
6. VAV TERMINALS SHALL MEET REQUIREMENTS OF UL 181 AND NFPA 90A.
7. VAV TERMINALS BOXES ARE SINGLE DUCT, DDC WITH STANDARD MULTIPOINT CENTER AVERAGING VELOCITY SENSOR.
8. UPSIZE BRANCH DUCT INLET CONNECTION DIAMETER BY 2"
9. PROVIDE ELECTRIC HEAT COILS WITH CAPACITIES SHOWN.
10. PROVIDE BUILT-IN MAGNETIC STEP CONTROLLED CONTACTORS FOR EACH CIRCUIT.
11. PROVIDE FACTORY MOUNTED AIR FLOW SAFETY SWITCH TO PREVENT ELEMENTS FROM ENERGIZING WITHOUT AIRFLOW
12. PROVIDE THERMOSTAT.
13. PROVIDE TEMPERATURE SENSOR 3 FT. DOWNSTREAM OF VAV'S.
14. CONTRACTOR SHALL SUBMIT VENDOR SUBMITTAL TO OWNER AND ENGINEER ON VAV BOXES PRIOR TO ORDERING.
15. PROVIDE 2-STAGE ELECTRIC HEAT FOR ALL VAV'S WITH 1.5KW AND ABOVE.
16. VAV2-16 AND VAV2-20 DO NOT REQUIRED ELECTRIC HEAT. PROVIDE 24V TRANSFORMER ONLY.
17. CONTRACTOR TO LOCATE HEATERS AND VAV BOX TO PROVIDE NECESSARY CLEARANCE TO ELECTRICAL CONTROL PANEL DOOR AND SERVICE TO ELECTRICAL DEVICES ACCORDING TO REQUIREMENTS OF THE MANUF. AND CODE AND REGULATIONS IN AFFECT. PANEL DOOR MUST SWING FULL OPEN POSITION.

VAV BOX WITH ELECTRIC REHEAT CONTROLS:

NOTE ALL BOXES SHALL BE INTERLOCKED WITH THE BAS

DISCHARGE AIR TEMP SENSOR: A DISCHARGE AIR TEMP SENSOR IS PROVIDED ON EACH BOX FOR MONITORING PURPOSES.

OCCUPIED MODE: WHEN THE ZONE TEMPERATURE IS BETWEEN THE OCCUPIED HEATING AND COOLING SETPOINTS (INSIDE OF THE BIAS), THE PRIMARY AIR DAMPER SHALL BE AT THE MINIMUM CFM AND ELECTRIC HEAT SHALL REMAIN OFF. ON A RISE IN ZONE TEMPERATURE ABOVE THE COOLING SETPOINT, THE PRIMARY AIR DAMPER SHALL INCREASE THE CFM AND THE ELECTRIC HEAT SHALL REMAIN OFF. ON A DROP IN ZONE TEMPERATURE BELOW THE HEATING SETPOINT, THE ELECTRIC HEAT SHALL CYCLE ON AND THE DAMPER IS CONTROLLED TO PROVIDE A MINIMUM CFM.

UNOCCUPIED (NIGHT SETBACK) MODE: WHEN THE AIR HANDLING UNIT SHUTS DOWN, ALL BOX CONTROLLERS ARE INDEXED TO UNOCCUPIED MODE. WHEN THE ZONE TEMPERATURE IS BETWEEN THE UNOCCUPIED HEATING AND COOLING SETPOINTS (INSIDE OF THE BIAS), THE PRIMARY AIR DAMPER SHALL BE AT THE MINIMUM CFM, AND THE ELECTRIC HEAT SHALL REMAIN OFF. ON A RISE IN ZONE TEMPERATURE ABOVE THE UNOCCUPIED COOLING SETPOINT, THE PRIMARY AIR DAMPER SHALL INCREASE THE CFM (IF AVAILABLE) AND THE ELECTRIC HEAT SHALL REMAIN OFF. ON A DROP IN ZONE TEMPERATURE BELOW THE UNOCCUPIED HEATING SETPOINT THE ELECTRIC HEAT SHALL CYCLE ON, AND THE DAMPER IS CONTROLLED TO PROVIDE A MINIMUM CFM.

FAN SCHEDULE

DESIGN	CFM	ESP IN W.G.	HP or (WATTS)	VOLTS/HZ/PH	MODEL NO.	REMARKS
EF-1	75	0.25	1/15	115/1/60	TWIN CITY MODEL T100	1 THRU 11
EF-2	150	0.25	166W	115/1/60	TWIN CITY MODEL T250	1 THRU 11
EF-3	150	0.25	166W	115/1/60	TWIN CITY MODEL T250	1 THRU 11
EF-4	50	0.25	1/15	115/1/60	TWIN CITY MODEL T80	1 THRU 11
EF-5	50	0.25	1/15	115/1/60	TWIN CITY MODEL T80	1 THRU 11
EF-6	75	0.25	1/15	115/1/60	TWIN CITY MODEL T100V	1 THRU 11
EF-7	400	0.25	1/4	115/1/60	TWIN CITY MODEL T250V	1,3,5 THRU 11 & 13
EF-8	400	0.25	1/4	115/1/60	TWIN CITY MODEL T250V	1,3,5 THRU 11 & 13
EF-9	400	0.25	1/4	115/1/60	TWIN CITY MODEL T250V	1,3,5 THRU 11 & 13
EF-10	2500	0.5	0.75	208/3/60	TWIN CITY MODEL BSI 165A	1,3,5 THRU 11,13&14
SF-11	2500	0.5	0.75	208/3/60	TWIN CITY MODEL BSI 165A	1,3,5 THRU 11,13&14

NOTES:

1. INTERLOCK WITH ROOM LIGHT SWITCH AND INTERLOCK ROOM WITH OCCUPANCY SENSOR POWER PACK.
2. PROVIDE WALL CAP WITH BACKDRAFT DAMPERS.
3. PROVIDE SOLID STATE SPEED CONTROLLER.
4. FURNISH WITH CEILING GRILLE.
5. PROVIDE BACKDRAFT DAMPER.
6. PROVIDE DISCONNECT SWITCH.
9. FURNISH WITH ANTI VIBRATION MOUNTS.
10. FAN SHALL BE DESIGNED FOR CONTINUOUS OPERATION.
11. INTERLOCK ALL FANS WITH BAS SYSTEM
12. INTERLOCK EF-7, EF-8 AND EF-9 FANS WITH ACU-1.
13. EF-10, SF-11 FANS SHALL RUN CONTINUOUSLY.
14. PROVIDE BELT DRIVE MOTOR.
15. GENERAL NOTE FOR ALL FANS: EXTERNAL STATIC PRESSURE (ESP) OF DUCTWORK INCLUDE OUR DUCT STATIC PRESSURE DROPS. MANUFACTURER MUST SELECT FAN TO INCLUDE ALL STATIC PRESSURE OF DEVICES ON FANS AND THE ESP STATED IN SCHEDULE. MOTORS MUST BE OVERSIZED BY MANUFACTURER SUCH THAT CFM ADJUSTMENT THROUGH THE VENDOR'S USE OF THE SPEED CONTROL. DOES NOT RESULT IN AMPERAGE IN EXCESS OF NAME PLATE 'FLA' OF THE MOTOR. THE FAN MUST NOT OPERATE IN SERVICE FACTOR OF THE MOTOR.

DIFFUSERS, REGISTERS AND GRILLES

DESIGN.	CFM	NECK SIZE (IN.)	MAX ΔP (IN.)	MAX NC	MODEL
1	0-140	6ø	.1	30	24x24 LAY-IN, SUPPLY TYPE L, WHITE NAILOR MODEL # AUNI
	140-220	8ø			
	220-315	10ø			
	315-470	12ø			
	470-850	14ø			
2	0-140	6ø	0.1	30	12x12 LAY-IN, SUPPLY TYPE L, WHITE NAILOR MODEL # AUNI
	140-220	8ø			
3	0-2000	22"x22"	0.1	30	24x24 LAY-IN RETURN AIR 1/2x1/2x1/2 EGG CRATE WHITE ALUM. NAILOR #51ECL
4	0-560	--	0.1	30	12x12 LAY-IN RETURN AIR 1/2x1/2x1/2 EGG CRATE WHITE ALUM. NAILOR #51ECL
5	0-220	14"x8"	0.1	30	14x8 SURFACE MOUNT SUPPLY AIR, 3/4" SPACING 0° DEFLECTION WHITE ALUM. W/OBD, NAILOR MODEL # 51FH
6	0-220	14"x10"	0.1	30	14x10 SURFACE MOUNT RETURN AIR, 3/4" SPACING 0° DEFLECTION WHITE ALUM. W/OBD, NAILOR MODEL # 51FH
7	161-225	10"ø	0.1	30	48 INCH LINEAR SLOT DIFFUSER WITH 1" BY 2 SLOTS PROVIDE FACTORY FABRICATED INSULATED PLENUM. NAILOR MODEL #5310, TYPE 'C' . WHITE AL. SURFACE MOUNT FOR GYPSUM CEILING WITH MITERED END CAPS.
8A	225-260	10"ø	0.1	30	48 INCH LINEAR SLOT DIFFUSER WITH 1" BY 3 SLOTS PROVIDE FACTORY FABRICATED INSULATED PLENUM. NAILOR MODEL #5310, TYPE 'C' . WHITE AL. SURFACE MOUNT FOR GYPSUM CEILING WITH MITERED END CAPS.
8B	250-310	12"ø			
9A	150-180	8"ø	0.1	30	60 INCH LINEAR SLOT DIFFUSER WITH 1" BY 2 SLOTS PROVIDE FACTORY FABRICATED INSULATED PLENUM. NAILOR MODEL #5310 TYPE 'T', WHITE AL. LAY IN WITH MITERED END CAPS.
9B	200-260	10"ø			

NOTES:

1. PROVIDE PLASTER RING FOR GYPSUM CEILINGS/WALLS.
2. INSULATE AND SEAL THE BACK OF ALL GRILLES TO PREVENT CONDENSATION.
3. PROVIDE BRANCH DUCT TRANSITIONS AS REQUIRED TO ALL GRILLES, REGISTERS AND DIFFUSERS.
4. COORDINATE WITH ARCHITECTURAL CEILING PLAN TO LOCATE ALL GRILLS AND DIFFUSERS.
5. FOR DIFFUSERS 9A & 9B LAY-IN OF THE DIFFUSERS SHALL BE COORDINATED WITH CEILING GRID.

BAS AND MISCELLANEOUS CONTROLS:

THE BAS CONTROLS SHALL INDIVIDUALLY CONTROL THE START STOP SIGNALS AND PROVIDE INDIVIDUAL STATUS (CS SENSORS) FOR BELOW LISTED HVAC EQUIPMENT AND ENABLE THE OPERATION OF THE ACU-1, ACC-1, THE VAV BOXES, THE EXHAUST AND SUPPLY FANS AND ALL ASSOCIATED AUTOMATIC DAMPERS IN THE DUCT SYSTEMS. THE ACU-1 AND THE ACC-1 SHALL BE INTERLOCKED PER THE EQUIPMENT MANUFACTURER'S REQUIREMENTS. THE BAS SYSTEM SHALL MONITOR THE ACU-1 DISCHARGE AIR TEMPERATURE AND SHALL MONITOR THE RETURN AIR TEMPERATURE AND RELATIVE HUMIDITY, AND SHALL CONTROL THE OPERATION OF THE DUCT MOUNTED INDIVIDUALLY MOTORIZED RETURN AIR AND OUTSIDE AIR DAMPERS TO MAINTAIN A FIXED STATIC PRESSURE SET POINT IN THE MIXED AIR PLENUM OF THE UNIT AS THE VFD ON THE PACKAGED UNIT THROTTLES TO MAINTAIN SET POINT OF A PRESSURE SENSOR IN THE SUPPLY DUCT SYSTEM (2/3 DOWN LONGEST SUPPLY DUCT MAIN FROM THE PACKAGED UNIT DISCHARGE). SUPPLY FAN SF-11 AND EXHAUST FAN EF-10 AND ALL EXHAUST FANS SHALL BE INTERLOCKED WITH THE PACKAGED UNIT ACU-1 TO OPERATE 24/7 (ADJUSTABLE SCHEDULE). THE BAS SYSTEM SHALL PROVIDE THE AVAILABILITY OF SEPARATE SCHEDULING FOR HVAC EQUIPMENT. THE PRESSURE SENSOR IN THE MIXED AIR PLENUM AND IN THE SUPPLY DUCT, ALONG WITH THE RELATIVE HUMIDITY AND TEMPERATURES SENSOR IN THE RETURN AIR DUCT SYSTEM, AND THE DISCHARGE AIR TEMPERATURE SENSOR ON THE LEAVING SIDE OF THE ACU-1 SHALL BE PROVIDED BY THE CONTROL CONTRACTOR. ALL VAV BOX DDC CONTROLS SHALL BE FURNISHED BY THE CONTROL CONTRACTOR AND INSTALLED BY THE BOX MANUFACTURER. THE BAS SYSTEM SHALL ALSO MONITOR AND ALARM OF FAULT CONDITIONS THAT OCCURS ON THE ACU-1 UNIT.

THE CONTROL CONTRACTOR SHALL INSTALL AND WIRE ANY CONTROLS PROVIDED BY THE HVAC CONTRACTOR AND SHALL PROVIDE ALL OPERATING SCHEDULES AND MISCELLANEOUS CONTROL DEVICES NECESSARY FOR A COMPLETE OPERABLE SYSTEM TO MEET THE MANUFACTURER'S REQUIREMENTS AND TO MEET THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS.

CONTROL CONTRACTOR NOTES:

A CONTROL CONTRACTOR SPECIALIZING IN CONTROLS AS THE MAIN BUSINESS AND WITH 3 YEARS EXPERIENCE ON SIMILAR PROJECTS SHALL PROVIDE THE CONTROL SYSTEM. THE CONTROLS SHALL BE SUPPLIED AND INSTALLED BY THE CONTROL CONTRACTOR. MOST OF THE CONTROLS ARE FACTORY INSTALLED BUT THOSE SHIPPED LOOSE BY THE AC EQUIPMENT MANUFACTURERS SHALL BE INSTALLED AND WIRED BY THE CONTROL CONTRACTOR.

ALL MISCELLANEOUS RELAYS, SWITCHES, TRANSFORMERS, PANELS, WIRING AND CONDUIT NECESSARY FOR A COMPLETE OPERATING CONTROL SYSTEM AND TO IMPLEMENT THE INDICATED CONTROL SEQUENCE SHALL BE PROVIDED BY THE CONTROL CONTRACTOR.

LOUVER SCHEDULE:

LOUVERS SHALL BE STATIONARY DRAINABLE TYPE WITH DRAIN GUTTERS IN EACH BLADE AND DOWNSPOUTS IN JAMBS AND MULLIONS. STATIONARY DRAINABLE BLADES SHALL BE CONTAINED WITHIN A 4-1/8" FRAME. LOUVER COMPONENTS (HEADS, JAMBS, SILLS, BLADES & MULLIONS) SHALL BE FACTORY ASSEMBLED BY THE LOUVER MANUFACTURER. LOUVER SIZES TOO LARGE FOR SHIPPING SHALL BE BUILT UP BY THE CONTRACTOR FROM FACTORY ASSEMBLED LOUVER SECTIONS TO PROVIDE OVERALL SIZES REQUIRED. LOUVER DESIGN SHALL INCORPORATE STRUCTURAL SUPPORTS REQUIRED TO WITHSTAND A WIND LOAD OF 140 MPH WIND.

LOUVERS SHALL BE UNITED ENERTECH #DCFL-D-4 6063T6 EXTRUDED ALUMINUM CONSTRUCTION AS FOLLOWS:

FRAME: 4-1/8" DEEP, .081 NOMINAL WALL THICKNESS.
BLADES: .081 NOMINAL WALL THICKNESS. DRAINABLE. BLADES ARE POSITIONED AT 37 DEGREE ANGLE AND SPACED APPOXIMATELY 2.188 CENTER TO CENTER.
SCREEN: ¾" X .051" (19 X 1.3) EXPANDED, FLATTENED ALUMINUM IN REMOVABLE FRAME.
FINISH: SELECT FINISH SPECIFICATIONS FROM UNITED ENERTECH FINISHES BROCHURE.

PUBLISHED LOUVER PERFORMANCE DATA BEARING THE AMCA CERTIFIED RATINGS SEAL FOR AIR PERFORMANCE & WATER PENETRATION MUST BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION AND MUST DEMONSTRATE PRESSURE DROP AND WATER PENETRATION EQUAL TO OR LESS THAN THE UNITED ENERTECH MODEL SPECIFIED.

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revisions		
no.	revision	date
1		
2		
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JEFFERSON PARISH SHERIFF'S OFFICE
4TH DISTRICT SUBSTATION
JEFFERSON PARISH, LOUISIANA

HVAC SCHEDULES

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