

AIR CONDITIONING SPLIT SYSTEM EQUIPMENT SCHEDULE

CONDENSING UNIT															
CU TAG	MANUFACTURER & MODEL	NOMINAL TONNAGE	CAP. STAGES	(SEER/EER/PLV)	REFRIG./LBS	LIQ./SQ.FT.	NO. FANS	FAN FLA(EA)	NO. COMP.	COMP.RLA(EA)	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)	NOTES
CU-1	LENNOX SSB04H4-230	4.0	2	16.0	R-410A/-	3/8 / 7/8	1	2.8	1	14.0	208/3	20.3/30	288	30.5x35x39	SEE BELOW
CU-2	LENNOX SSB06H4-230	5.0	2	15.5	R-410A/-	3/8 / 1-1/8	1	1.8	1	16.5	208/3	22.4/35	332	35.5x39.5x45	SEE BELOW
CU-3	LENNOX SSB04H4-230	4.0	2	16.0	R-410A/-	3/8 / 7/8	1	2.8	1	14.0	208/3	20.3/30	288	30.5x35x39	SEE BELOW
CU-4	LENNOX SSB04H4-230	4.0	2	16.0	R-410A/-	3/8 / 7/8	1	2.8	1	14.0	208/3	20.3/30	288	30.5x35x39	SEE BELOW
CU-5	LENNOX SSB06H4-230	5.0	2	15.5	R-410A/-	3/8 / 1-1/8	1	1.8	1	16.5	208/3	22.4/35	332	35.5x39.5x45	SEE BELOW
CU-6	LENNOX SSB04H4-230	4.0	2	16.0	R-410A/-	3/8 / 7/8	1	2.8	1	14.0	208/3	20.3/30	288	30.5x35x39	SEE BELOW
CU-7	LENNOX SSB04H4-230	4.0	2	16.0	R-410A/-	3/8 / 7/8	1	2.8	1	14.0	208/3	20.3/30	288	30.5x35x39	SEE BELOW
CU-8	LENNOX SSB036H4-230	3.0	2	15.0	R-410A/-	3/8 / 7/8	1	1.7	1	11.6	208/3	16.2/25	243	30.5x35x31	SEE BELOW
CU-9	LENNOX SSB036H4-230	3.0	2	15.0	R-410A/-	3/8 / 7/8	1	1.7	1	11.6	208/3	16.2/25	243	30.5x35x31	SEE BELOW

AIR HANDLING UNIT																
AHU TAG	MANUFACTURER & MODEL	TOTAL MBH	SENSIBLE MBH	TOTAL CFM	O/A CFM*	E.S.P. ("W.G.)	ENT. DB/WB	LEAV. DB/WB	ROWS/FPI	FAN HP/FLA	HEATER KW	VOLTAGE/PH	MCA/MOCP	WEIGHT (LBS)	L x W x H (IN)	NOTES
AHU-1	LENNOX CBX27UH-048	48.1	34.6	1535	355	0.5	77/66	55.7/55.4	3/12	1.0/7.6	10.0	208/3	36/40	216	62.8x25.6x21.3	SEE BELOW
AHU-2	LENNOX CBX27UH-060	60.3	42.6	1815	370	0.8	77/66	54.8/54.8	3/12	1.0/7.6	10.0	208/3	36/40	216	62.8x25.6x21.3	SEE BELOW
AHU-3	LENNOX CBX27UH-048	48.1	34.6	1535	370	0.6	77/66	55.7/55.4	3/12	1.0/7.6	10.0	208/3	36/40	216	62.8x25.6x21.3	SEE BELOW
AHU-4	LENNOX CBX27UH-048	48.1	34.6	1535	360	0.6	77/66	55.7/55.4	3/12	1.0/7.6	10.0	208/3	36/40	216	62.8x25.6x21.3	SEE BELOW
AHU-5	LENNOX CBX27UH-060	60.3	42.6	1815	460	0.8	77/66	54.8/54.8	3/12	1.0/7.6	10.0	208/3	36/40	216	62.5x21.3x24.9	SEE BELOW
AHU-6	LENNOX CBX27UH-048	48.1	34.6	1535	455	0.8	77/66	55.7/55.4	3/12	1.0/7.6	10.0	208/3	36/40	216	62.8x25.6x21.3	SEE BELOW
AHU-7	LENNOX CBX27UH-048	48.1	34.6	1535	325	0.6	77/66	55.7/55.4	3/12	1.0/7.6	10.0	208/3	36/40	216	62.8x25.6x21.3	SEE BELOW
AHU-8	LENNOX CBX27UH-036	35.4	25.0	1120	85**	0.6	77/66	55.8/55.4	3/12	0.5/4.1	8.0	208/3	26/30	159	51x22.9x21.3	SEE BELOW
AHU-9	LENNOX CBX27UH-036	35.4	25.0	1120	70**	0.6	77/66	55.8/55.4	3/12	0.5/4.1	8.0	208/3	26/30	159	51x22.9x21.3	SEE BELOW

- NOTES:**
- * OUTSIDE AIR PROVIDED BY OARTU-1 ** OUTSIDE AIR DUCTED INTO RETURN OF AHU
 - 1. UNITS RATED PER ARI 210, 240 AND 270, APPROVED EQUAL: AAO, CARRIER, LENNOX, TRANE, YORK
 - 2. PROVIDE WITH THERMAL EXPANSION VALVES, LIQUID LINE FILTER DRYER AND MULTI-USE SERVICE VALVES
 - 3. PROVIDE COMPRESSOR WITH CRANKCASE HEATER AND MIN. 5-YEAR WARRANTY
 - 4. PROVIDE HIGH AND LOW PRESSURE CONTROL AND OVER TEMPERATURE PROTECTION.
 - 5. PROVIDE WEATHERPROOF ELECTRIC CONTROLS AND SINGLE SIDE SERVICE ACCESS
 - 6. PROVIDE SINGLE POINT POWER ENTRY AND HEAVY DUTY NICKEL-CHROMIUM ELEMENT HEATER
 - 7. PROVIDE 1" THROWAWAY, MIN. 30% EFF. FILTER AND VIBRATION ISOLATION FOR AHU
 - 8. PROVIDE COASTAL CORROSION PROTECTION FOR CONDENSING UNIT, FULLY DIPPED COIL (BY MANUFACTURER)
 - 9. PROVIDE FACTORY MOUNTED FUSIBLE DISCONNECT/STARTER FOR A.H.U., COORDINATE PRIOR TO PURCHASING
 - 10. PROVIDE DISCONNECT FOR C.U. (INSTALLED BY ELECTRICAL) COORDINATE PRIOR TO PURCHASING
 - 11. PROVIDE EMERGENCY POWER, COORDINATE WITH ELECTRICAL
 - 12. PROVIDE FACTORY PROGRAMMABLE THERMOSTAT TO MATCH CAPACITY STAGES.
 - 13. PROVIDE REFRIGERANT LINES SIZE AS RECOMMENDED BY MANUFACTURER, NOT TO EXCEED 150 FT. EQUIV. LENGTH FOR LONGER RUNS COORDINATE WITH MANUFACTURER PRIOR TO PURCHASE OR ANY WORK.
 - 14. PROVIDE A LIQUID LINE SOLENOID VALVE INSTALLED AT THE AHU IF THE INSTALLED LINEAL LENGTH OF THE REFRIGERANT LIQUID LINES EXCEEDS 75 FT (FIELD VERIFY).
 - 15. PROVIDE A SUCTION LINE ACCUMULATOR IF THE INSTALLED LINEAL LENGTH OF THE REFRIGERANT SUCTION LINES EXCEEDS 100 FT (FIELD VERIFY).
 - 16. PROVIDE CORROSION PROTECTION COATING FOR CONDENSER COIL WITH MIN. 5-YEAR WARRANTY COATING BY SURSIL, LUVATA, THERMOGUARD OR BYGOLD.
 - 17. PROVIDE AUTOMATIC SHUT OFF FLOAT SWITCH OR SENSOR SWITCH IN UNIT'S DRAIN PAN SECONDARY CONNECTION
 - 18. PROVIDE ELECTRIC HEATER WITH MIN. 2 STAGES IF OVER 10 KW CAPACITY.

COORDINATION NOTE:
MECHANICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS AND ACCESSORIES WITH ELECTRICAL CONTRACTOR PRIOR TO PURCHASING AND INSTALLATION AND SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF ENGINEER

SUPPLY / RETURN AIR DIFFUSER SCHEDULE

TAG	MANUF. & MODEL	FACE SIZE	NECK SIZE	MATERIAL	FRAME	FINISH	DAMPER	THROW	NC	CFM RANGE	NOTES
A	TITUS TMSA-AA	24X24	SEE PLAN	ALUM.	LAY-IN	OFF WHITE	OBD	4-WAY	MAX. 30	SEE SCH.	1-8
AA	TITUS 350FL	24X24	-	ALUM.	LAY-IN	OFF WHITE	OBD	-	MAX. 30	SEE SCH.	1-8
B	TITUS TMSA-AA	12X12	SEE PLAN	ALUM.	LAY-IN	OFF WHITE	OBD	4-WAY	MAX. 30	SEE SCH.	1-8
BB	TITUS 350FL	12X12	-	ALUM.	LAY-IN	OFF WHITE	OBD	-	MAX. 30	SEE SCH.	1-8
C	TITUS 301 FL	6X6	SEE PLAN	ALUM.	SIDEWALL	OFF WHITE	OBD	1-WAY	MAX. 30	SEE SCH.	1-8

(*) EQUIVALENT MANUFACTURER: TITUS, METALAIR, CARNES, T & B, NAILOR

- GENERAL NOTES:**
- PROVIDE SPIN-IN COLLAR WITH VOLUME DAMPER AT TRUNK TO FLEX DUCT CONNECTION (SEE DETAIL).
 - PROVIDE TYPICAL 4-WAY DIFFUSION, 2-WAY OR 3-WAY ONLY WHERE INDICATED ON PLANS.
 - REFER TO ARCHITECT PLANS FOR CEILING TYPE.
 - FINAL COLOR SELECTION SUBJECT TO ARCHITECT APPROVAL.
 - FLEX DUCT SIZE TO BE SAME AS DIFFUSER NECK SIZE.
 - PROVIDE INSULATION ON THE BACK OF DIFFUSER IF IN UNCONDITIONED SPACE
 - PROVIDE VOLUME CONTROL DAMPERS FOR ALL RETURN GRILLES OR REGISTERS FOR BALANCED AIRFLOW.
 - ADJUST LENGTHS TO LINE UP WITH INTERIOR DESIGNER'S PLANS.

CONTRACTOR SHALL VERIFY WITH ARCHITECT AND TENANT/OWNER, PRIOR TO ANY PURCHASING OR INSTALLATION, IF A BUILDING STANDARD HAS TO BE FOLLOWED REGARDING A SPECIFIC MODEL OR MANUFACTURER AND SHALL BRING ANY DISCREPANCY TO THE ATTENTION OF ENGINEER.

FLEX SCHEDULE	
66"	50-125 CFM
86"	130-200 CFM
106"	205-330 CFM
126"	335-450 CFM
146"	455-700 CFM

OUTSIDE AIR CALCULATIONS

(Calculations Based off of Florida Building Code 2014 Tabel 403.3)

AREA SERVED OR UNIT TAG	NET OCCUPIABLE AREA SQ.FT.	VENTILATION RATE O/A CFM/SQ.FT.	CFM/SQ. FT REQUIRED	ACTUAL OCCUP. NO. OF PEOPLE	VENTILATION RATE O/A CFM/PERSON	COMBINED TOTAL CFM O/A REQ'D	COMBINED TOTAL CFM O/A PROV'D	NOTES
AHU-1	890	0.06	54	40	7.5	354	355	1-2
AHU-2	870	0.06	53	42	7.5	368	370	1-2
AHU-3	875	0.06	53	42	7.5	368	370	1-2
AHU-4	845	0.06	51	41	7.5	359	360	1-2
AHU-5	1100	0.06	66	52	7.5	456	460	1-2
AHU-6	1050	0.06	63	52	7.5	453	455	1-2
AHU-7	790	0.06	48	37	7.5	325	325	1-2
AHU-8	1375	0.06	83	0	7.5	83	135	1-2
AHU-9	645	0.06	39	4	7.5	69	70	1-2
TOTALS	8630 SF		905			2835	2900 CFM	

- NOTES:**
- CALCULATIONS ARE BASED ON ESTIMATED MAX. OCCUPANCY RATES PER ARCHITECTURAL PLANS AND MECHANICAL F.B.C. 2014 CH-4; VENTILATION RATES PER MECHANICAL F.B.C. 2014 CH-4.
 - FOR OFFICE AND OTHER SIMILAR AREAS CALCULATIONS ARE BASED ON CONTINUOUS OCCUPANCY.

100% O.A. RTU SCHEDULE

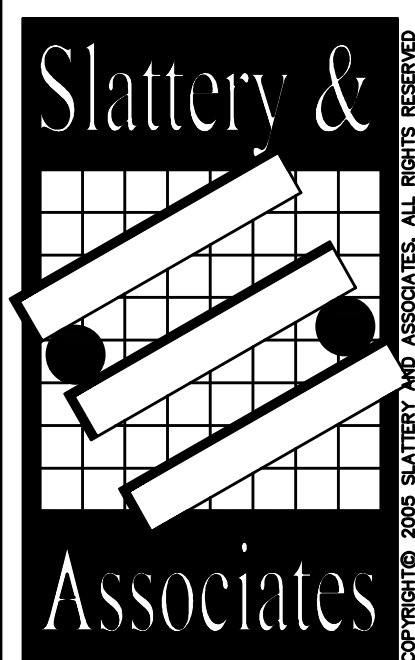
A/C UNIT TAG	RTU-1	Specification Notes for AAO RN Series
MANUFACTURER	AAON	Provide the following features: 1. Basis of design is AAO. Any approved alternate manufacturer must provide ALL of the features listed below. Contractor is responsible for coordinating all dimensional, weight and electrical changes. 2. Unit shall be UL or ETL listed and labeled by the original manufacturer. Units that have been modified after shipping from original manufacturer are not accepted. 3. Provide G90 galvanized steel construction inside and out. Unit interior and exterior surfaces shall be coated to exceed 10,000 Hr salt spray test in accordance with ASTM B-117-95 procedures. If the manufacturer's coating does not meet this requirement, the contractor shall have the entire cabinet coated with Adsil. 4. Unit shall have an AAO/AIRE Energy Recovery System for total enthalpy recovery with 1% purge and with capacity as scheduled and must be certified per AHRI-1060 Standard. Testing must be performed in accordance with ASHRAE Standard 84. 5. Energy Recovery System shall consist of a rotary counterflow energy exchanger made of engineered polymer with permanently embedded desiccant. Aluminum wheels not acceptable. 6. Wheel shall be made in segments for ease of removal and cleaning. 7. Energy Recovery System must be approved under FPL Rebate Program. 8. Energy recovery wheel shall include a factory supplied, field adjustable, purge sector designed to limit cross contamination to less than 1 percent of that of the exhaust airstream concentration when operated under design conditions. 9. Provide double wall cabinet construction with minimum of 2" injected polyurethane foam insulation. NO fiberglass. 10. Provide access doors with same construction as above and with full piano stainless steel hinges and tool-less 1/4 turn handles. Provide access doors for the Filters section, Blower Section, Heater Section, Coils Section, and Control/Compressors Cabinet. 11. The unit shall have Scroll Compressors with independent Refrigerant Circuits. Refrigerant Circuits shall include liquid line filter driers, TXV, crankcase heaters, high and low pressure cutouts and Schrader service fittings on the high and low pressure sides of the system. Compressors shall be installed inside an enclosed compartment with full size service access doors. 12. Provide single point power connection with phase and brownout protection. 13. Provide an Outside Air Intake Damper with a factory mounted and wired 2-position actuator. 14. Provide motor overload and thermal protection. 15. Provide a 2" filter rack and 30% pleated filters 16. Provide a double sloped and pitched 304 stainless steel drain pan under the cooling coil. 17. Provide a cooling coil with a MINIMUM of 6-rows for dehumidification. 18. Provide Modulating Hot Gas Reheat and Hot Gas Bypass on the first stage (on two compressor units) or on the first two stages (on 4 compressor units) to achieve infinite capacity modulation for fully modulating temperature and humidity control. 19. Provide Space Temperature and Humidity Sensors to override discharge setpoint and dewpoint control. 20. Provide an Electric Heating Coil with 2-step control, fuses and resettable high temperature limit switch. 21. Provide Backward Inclined, direct driven plenum type fans with aluminum wheels. Provide factory mounted Variable Frequency Drive and NEMA Premium Efficiency motors. 22. Provide Backward Inclined Exhaust Fan with Barometric Relief Damper 23. Provide Microchannel Air Cooled condenser coils, copper tubes / aluminum finned evaporator coils and reheat coils. ALL coils must be coated to exceed 10,000 Hr salt spray test in accordance with ASTM B-117-95 procedures. All Coating must have 5-Year Warranty. 24. Provide a factory 5-year compressor parts warranty. 25. Provide a factory mounted Make-up Air Unit BDC Controller to include programmable 365 day scheduler and holiday scheduling stored in a non volatile EPROM memory. The controller must have logic for cooling, heating and dehumidification cycles. Provide one Hand Held service tool for the project. This tool must remain in the building for future service once the project is completed. 26. Provide Dehumidification Control that stages the compressors based on outside air enthalpy and supplies discharge air based on supply air temperature (adjustable modulating hot gas reheat). The supply air set-point will automatically be reset based on a space temperature reset sensor as per note 16. 27. Provide a galvanized roof-curb minimum of 14" high. The contractor shall check and coordinate with roof-curb with the roof pitch to assure the curb is installed level in accordance with manufacturer's requirements. Roof Curb to comply with latest FBC. Provide tie down clips. 28. Provide service clearances per manufacturer recommendations. 29. Provide factory mounted and wired smoke detector in the unit supply. 30. Provide Space Temperature and Humidity Sensors to override unit control if necessary. 31. Provide Variable Speed Condenser Fan with Head Pressure Control 32. Unit controller shall have BACnet MS/TP communications capability 33. Provide factory Start-up.
MODEL	RN-013-B-A-EA19-122	
SUPPLY AIR CFM	2900	
EXHAUST AIR CFM	2030	
VOLTAGE	208/3ø/60	
MCA/MOCP	81 / 100	
SEER/EER	-- / 16.1	
OPERATING WEIGHT LBS.	2455	
DIMENSIONS L x W x H (IN.)	128 x 59 X 48 (FOOTPRINT)	
ROOF OPENING (IN.)	---	
SYSTEM		
Q.L. SUMMER/WINTER BTUH	76.82 / 72.21	
E.A.T. SUMMER D.B./W.B. °F	91 / 78	
L.A.T. SUMMER D.B./W.B. °F	83.62 / 71.93	
E.A.T. / L.A.T. WINTER D.B. °F	50.0 / 63.07	
EXHAUST FAN HP/BHP/FLA	2.0 / 1.14 / 7.5	
ENTHALPY WHEEL		
TOTAL COOLING CAPACITY, MBH	158.0	
SENSIBLE CAPACITY, MBH	88.56	
PRESSURE DROP in.w.g.	0.16	
ROWS / FPI	4 / 14	
ENT. AIR TEMP D.B./W.B. °F	83.62 / 71.93	
LEAV. AIR TEMP D.B./W.B. °F	54.51 / 54.25	
EVAPORATOR		
TOTAL CAPACITY BTUH	58	
CONTROL	MODULATING	
ROWS / FPI	1 / 12	
LEAV. AIR TEMP D.B. °F	72	
LEAV. RELATIVE HUMIDITY. %	53	
HOT GAS REHEAT COIL		
REF./LBS.	R-410A	
NOMINAL TONNAGE/STAGES	13 / MODULATING	
NO. OF COMPRESSORS	2	
COMP. R.L.A. EACH	20.4 / 22.4	
NO. OF OUTDOOR FANS	2	
FAN FLA. EACH	7.0	
AIR COOLED COND. SECTION		
INDOOR FAN TYPE	B.I. - PLENUM (DIRECT DRIVE)	
FAN E.S.P. (IN. W.G.)	1.5	
FAN H.P./B.H.P.	3.0 / 2.61	
FAN F.L.A.	10.6	
VFD (YES / NO)	YES	
HEATER TYPE	ELECTRIC	
HEATER K.W. @ RATED VOLTAGE	15.0 @ 208V	
NO. OF STEPS	2	
FILTER TYPE/EFF.	2" MERV8/30%	
FAN SECTION		

AIR BALANCE SCHEDULE

EQUIPMENT TAG	AREA SERVED	OUTSIDE AIR (CFM)	EXHAUST AIR (CFM)
OARTU-1	AHU 1-9/EXHAUST OF R.R.	2,900	2,030
TOTAL		2,900	2,030

- NOTES:**
- ALL EXHAUST AIRFLOW IS INCLUDED.
 - SPACE IS 2,900-2,030 = 870 CFM POSITIVE WHEN ALL UNITS AND FANS OPERATING

REVISIONS	BY



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ACTIVITY CENTER FOR FLORENCE FULLER CHILD DEVELOPMENT CENTERS WEST CAMPUS S.W. 185TH STREET BOCA RATON, PALM BEACH COUNTY, FLORIDA

BIDDING NOT FOR CONSTRUCTION
DATE OF SEAL: 4/2/08

SLATTERY & ASSOCIATES
FLORIDA REGISTRATION # AA0003381

DRAWN	JWC/PG/AE
CHECKED	AK/MP
DATE	10-21-16
SCALE	AS NOTED
JOB NO.	2011-64
SHEET	

M6.1

MECHANICAL SCHEDULES

PHASE: C.D. SET 10-21-16

ISSUED FOR PERMIT

ISSUED FOR CONSTRUCTION

KAMM CONSULTING PROJECT # 2016-0024
PROJECT MANAGER: JOHN CHIRGWIN

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Phone 954.949.2200 Fax 954.949.2201
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Certification of Authorization #R189

10.21.16
date
signed