

SPLIT A/C UNIT SCHEDULE	
UNIT DESIGNATION	AHU/CU-1
MANUFACTURER	CARRIER
SYSTEM TYPE	SPLIT
FEER/IEER	12.0/14.0
NOMINAL TONS	7.5
TOTAL COOLING (MBH)	89.2
NET SENSIBLE (MBH)	72.9
AREA SERVED	PUMP ROOM
FAN / COIL SECTION	
MODEL	40RUA08
TOTAL CFM	3000
OUTSIDE AIR CFM	100
ENT. AIR DB/WB F	75.8/62.2
LVG. AIR DB/WB F	N/A
EXT. SP. (IN WG)	0.5
FAN MOTOR H.P.	2.4
DRIVE	BELT
VOLTAGE/PHASE	460/3
COIL SIZE (SQ.FT.)	8.33
ROWS-FINS/INCH	4/15
WEIGHT (LBS)	404
DIMENSIONS (IN)	56(H)x48(W)x28.2(D)
CONDENSATE DRAIN	1
MCA **	4.0
MOCP ***	15
HEATING CAPACITIES (DUCT)	
MODEL	-
CAPACITY (MBH)	-
TYPE	-
KW/VOLTAGE/Ø	-
STAGES/KW EACH	-
CONTROL VOLT	-
MCA **	-
MOCP ***	-
CONDENSING SECTION	
MODEL	38AUZD08
TYPE	AIR COOLED
REFRIGERANT	R-410A
SUCTION LINE(CONN.)	1-1/8"
LIQUID LINE(CONN.)	1/2"
COMP. (NO.) TYPE	(1) DIGITAL SCROLL
COMPRESSOR RLA	12.6
VOLT/PHASE	460/3
FAN #/MPS/VOLTS/Ø	2/0.8/460/3
MCA **	18
MOCP ***	25
DIMENSIONS (IN)	59.25(L)x46(W)x42.4(H)
WEIGHT LBS	353
NOTES:	1-6
* FURNISH FACTORY DISCONNECT CIRCUIT BREAKER. ** MINIMUM CIRCUIT AMPACITY *** MAXIMUM OVERCURRENT PROTECTION	
① PROVIDE AND INSTALL ELECTRONIC PROGRAMMABLE THERMOSTAT WITH "COOL-HEAT-OFF" SELECTOR SWITCH AND FAN "ON-OFF-AUTO" SWITCH. ② PROVIDE AND INSTALL AUXILIARY OVERFLOW PAN WITH AN OVERFLOW EMERGENCY SWITCH. ③ REFER TO MANUFACTURER'S SPECIFICATIONS AND/OR CONSULT WITH MANUFACTURER IN ORDER TO PROPERLY SIZE REFRIGERANT LINE SIZES (SUCTION/LIQUID). PROVIDE AND INSTALL LONG LINE SETS REFRIGERANT PIPING AS REQUIRED BY MANUFACTURER. ④ CONDENSING UNITS SHALL BE PROVIDED WITH SPRAY-APPLIED CORROSION-RESISTANT COIL AND CABINET COATING. COATING SHALL BE DONE AT COATING MANUFACTURER'S CONTROLLED FACTORY. COATING SHALL BE "UV-RADIATION" OR APPROVED EQUAL. PROTECTIVE COATING SHALL BE LOW VOC. SYNTHETIC, WATER-BASED COATING EMBEDDED WITH 316 STAINLESS STEEL. ⑤ PRE-PANIED EXTERIOR PANELS AND PRIMER-COATED EXTERIOR PANELS TESTED TO 1,000 HOURS SALT SPRAY PROTECTION. ⑥ PROVIDE 2-STAGE COMPRESSOR.	

MECHANICAL LEGEND	
SYMBOL	DESCRIPTION
O.A.	OUTSIDE AIR
O.A.L.	OUTSIDE AIR LOUVER
R.A.	RETURN AIR
C.F.M.	CUBIC FEET PER MINUTE
⊕	THERMOSTAT
Ⓜ	REMOTE SMOKE DETECTOR TEST STATION
☑	SMOKE DETECTOR
⚡	A = DIFFUSER TYPE, CFM = DIFFUSER AIR FLOW
FD	UL LISTED FIRE DAMPER
VD	VOLUME DAMPER
⇄	SIDE-WALL DIFFUSER - SUPPLY AIR
⇄	DUCTWORK
⇄	SIDE-WALL DIFFUSER - RETURN AIR
▨	SHEET METAL DUCTWORK
☑	CEILING MOUNTED EXHAUST FAN
—RL—RL—	REFRIGERANT LIQUID LINE
—RS—RS—	REFRIGERANT SUCTION LINE
—COND—	CONDENSATE WATER PIPING

HVAC DESIGN CRITERIA	
OUTDOOR DESIGN:	91°db/79°wb
INDOOR DESIGN:	75°db, 50%-60% R.H
OUTSIDE AIR MINIMUM:	100 CFM
MAXIMUM SENSIBLE LOAD:	78.9 MBH
MAXIMUM LATENT LOAD:	4.6 MBH
TOTAL COOLING REQUIRED:	83.5 MBH
CONDITIONED AREA:	642 S.F.
TOTAL HEATING REQUIRED WITH O/A:	NONE
SIZING METHOD:	CARRIER HAP

HVAC DESIGN REQUIREMENTS		
	YES	NO
DUCT SMOKE DETECTOR	✓	✓
FIRE DAMPERS	✓	✓
SMOKE DAMPER(S)	✓	✓
FIRE RATED ENCLOSURE	✓	✓
FIRE RATED ROOF/FLOOR CEILING ASSEMBLY	✓	✓
FIRE STOPPING	✓	✓
SMOKE CONTROL	✓	✓

GENERAL DUCTWORK NOTES	
1.	ALL DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
2.	DUCT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARD AND DETAILS ON THESE PLANS.
3.	ALL AIR DEVICES (DIFFUSERS, REGISTERS AND GRILLES) SHALL BE ALL ALUMINUM CONSTRUCTION WITH EXPOSED SURFACE OFF WHITE BAKED ENAMEL FINISH OR AS SPECIFIED BY ARCHITECT. PROVIDE OPPOSED BLADE DAMPERS AT ALL DIFFUSERS AND REGISTERS AS INDICATED ON PLANS. PROVIDE BALANCING DAMPERS FOR ALL SUPPLY AND RETURN DIFFUSERS AND REGISTERS TO ENSURE COMPLIANCE AIR FLOW AND WITH FMC-2014 SEC. 601.4 FOR BALANCED RETURN TRANSFER AIR FLOW.
4.	ALL DAMPER CONTROLS SHALL BE ACCESSIBLE.
5.	ALL OUTSIDE AIR DUCTS OR INTAKES SHALL HAVE DAMPERS.
6.	SMACNA DUCT PRESSURE CLASSES BASED ON OPERATING PRESSURE ARE: 1/2", 1", 2", 3", 4", 6" AND 10". EACH DUCT SYSTEM SHALL BE CONSTRUCTED FOR THE SPECIFIC DUCT PRESSURE CLASS SHOWN ON PLANS. WHERE NO PRESSURE CLASS IS SPECIFIED FOR CONSTANT VOLUME SYSTEMS, 1" W.G. PRESSURE CLASS IS THE BASIS OF COMPLIANCE WITH THE SMACNA STANDARDS REGARDLESS OF VELOCITY. WHERE NO PRESSURE CLASS IS SPECIFIED FOR VARIABLE VOLUME SYSTEMS, 2" W.G. PRESSURE CLASS IS THE BASIS OF COMPLIANCE WITH THE SMACNA STANDARDS FOR DUCTWORK UPSTREAM OF WAJ BOXES. ALL DUCTWORK SHALL BE SEALED TO SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" FOR ITS PRESSURE CLASS SEALING METHODS.
7.	ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
DUCTWORK SPECIFICATIONS	
1.	ALL DUCTWORK SHALL BE 26 GAUGE GALVANIZED SHEETMETAL WITH SEALED SEAMS AND JOINTS WITH EXTERNAL BLANKET INSULATION R-6 MIN. THE CONTRACTOR SHALL PROVIDE ALL SHEETMETAL DUCTWORK, HANGERS, AUX. SUPPORT STEEL, ETC., ALL FLEX DUCT SHALL BE RATED CLASS I, UL-181 LISTED WITH METALLIZED INNER AND OUTER FOIL LINERS, MIN. R-6 WITH A MAX. TOTAL LENGTH NOT TO EXCEED 15 FT. INSTALL UL LISTED FOR PLENUM, FLEXIBLE DUCTWORK ELBOW SUPPORTS AT EACH DIFFUSER, GRILLE, AND REGISTER EQUAL TO "FLEXFLOW ELBOW" AS MANUFACTURED BY "THERMAFLEX".
2.	ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE 26 GAUGE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS. ALL OUTSIDE AIR DUCT SHALL BE INSULATED WITH EXTERNAL BLANKET INSULATION R-6 MIN. ALL METAL EXHAUST, MAKE-UP OR OTHERWISE DUCTS INSTALLED IN LOCATIONS WHERE DEWPOINT CONDITIONS CAN OCCUR INSIDE THE DUCT SHALL BE EXTERNALLY INSULATED WITH R-6 MIN. AIR INTAKE AND EXHAUST OPENINGS SHALL BE SCREENED WITH A CORROSION RESISTANT MATERIAL PER FMC 2010, TABLE 401.5.

REFRIGERANT PIPING NOTES	
1.	REFRIGERANT PIPING SHALL BE COPPER, REFRIGERATION GRADE, SOFT TEMPER, SEALED AT THE MILL. CIRCULATE DRY NITROGEN THROUGH PIPING WHEN SOLDERING. TEST FOR LEAKS PRIOR TO CHARGING SYSTEM WITH R-410A REFRIGERANT.
2.	"ARMAFLEX" OR EQUAL INSULATION SHALL BE USED FOR SUCTION AND HOT GAS REHEAT REFRIGERANT LINES (3/4" THICKNESS OR PER MANUFACTURERS SPECIFICATIONS). ALL DUCTLESS AND VARIABLE REFRIGERANT FLOW UNITS SHALL HAVE LIQUID AND SUCTION LINES INSULATED. FILTER/DRIER AND SIGHT GLASS SHALL BE PROVIDED AT LIQUID LINES. ALL OUTDOOR PIPING INSULATION EXPOSED TO SUNLIGHT AND WEATHER SHALL BE PAINTED WITH TWO COATS OF PROTECTIVE (K-FLEX 374 OR APPROVED EQUAL).
3.	REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING-TYPE TAMPER-RESISTANT CAPS OR SHALL BE OTHERWISE SECURED TO PREVENT UNAUTHORIZED ACCESS AS PER FMC-2014, SEC. 1101.10.

GENERAL HVAC NOTES	
1.	ALL WORK SHALL COMPLY WITH THE 2014 EDITION OF THE FLORIDA MECHANICAL, ENERGY CONSERVATION, ACCESSIBILITY CODES, AND ALL LOCAL CODE AMENDMENTS.
2.	CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF MATERIALS OR EQUIPMENT, IN ORDER TO PROVIDE A FULLY INTEGRATED MECHANICAL AND CONTROLS SYSTEMS WITH THE EXISTING ONES. ANY DISCREPANCY BETWEEN EXISTING CONDITIONS AND PLANS, OR ADDITIONAL CLARIFICATION REQUIRED SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER PRIOR TO FINAL BIDDING AND WORK. SUBMISSION OF THE CONTRACTORS PROPOSAL SHALL BE CONSTRUED AS INDICATING SUCH KNOWLEDGE. ANY CHANGES RESULTING FROM CONFLICTS IN THE FIELD, WHICH WERE NOT BROUGHT TO THE ENGINEERS ATTENTION, ARE TO BE MADE BY THIS CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3.	DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK. MECHANICAL PLANS ARE GENERAL, DIAGRAMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, PLUMBING, ELECTRICAL, FIRE SPRINKLER, STRUCTURAL AND INTERIOR DESIGNER PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. PROVIDE OFFSETS AND DEVIATIONS FROM WORK SHOWN ON THE DRAWINGS AS MAY BE NECESSARY TO FIT ACTUAL SPACE CONDITIONS AT NO ADDITIONAL COST TO THE OWNER. DUCTWORK CHANGES MAY BE MADE BY CONTRACTOR USING EQUIVALENT SIZED DUCT. CONTACT ENGINEER IF DUCT AREA WILL NOT FIT.
4.	CONTRACTOR SHALL PROVIDE A COMPLETE MECHANICAL SYSTEM(S) AS DETAILED ON THE DRAWINGS AND SPECIFICATIONS. WORK CONSISTS OF PROVIDING ALL MATERIALS, EQUIPMENT, APPURTENANCES, ETC. REQUIRED FOR A COMPLETE SYSTEM(S). INCLUDE ANY INCIDENTAL APPURTENANCES, MATERIALS, LABOR, PERMITS, SERVICES, ETC. NECESSARY TO MAKE WORK COMPLETE AND READY FOR OPERATION. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL FOR COMPLETE, FINISHED WORK, TESTED, AND READY FOR OPERATION.
5.	CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING CONFLICTS IN THE DRAWINGS AND SPECIFICATIONS PRIOR TO BIDDING AND REPORTING CONFLICTS TO THE ENGINEER BEFORE BIDDING. ANY CHANGES RESULTING FROM CONFLICTS IN THE FIELD, WHICH WERE NOT BROUGHT TO THE ENGINEERS ATTENTION, ARE TO BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6.	CONTRACTOR SHALL GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIATED WITHOUT COST TO THE OWNER.
7.	CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTION AND TESTS. CONTRACTOR SHALL OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO THE COMMENCEMENT OF WORK OR ORDERING EQUIPMENT. CONTRACTOR SHALL BE PRESENT FOR ALL INSPECTIONS OF HIS WORK BY REGULATORY AUTHORITIES.
8.	CONTRACTOR SHALL PROVIDE RECORD DRAWINGS TO THE BUILDING OWNER AND ARCHITECT. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS, REROUTINGS, ETC.
9.	CONTRACTOR SHALL PROVIDE INSURANCE FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
10.	ALL MATERIAL SHALL BE NEW OF U.S. MANUFACTURER OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED AT INDUSTRY STANDARD QUALITY LEVEL BY CERTIFIED PROFESSIONALS. ALL EQUIPMENT SHALL BE UL OR ETL LISTED. ALL INSTALLATIONS SHALL COMPLY WITH FMC 2014, CH. 3, GENERAL REGULATIONS. BUILDINGS LOCATED WITHIN 3,000 FT FROM THE OCEAN SHALL UTILIZE NON-FERROUS MATERIALS FOR ALL OUTDOOR EXPOSED SUPPORTS, STANDS, FASTENERS, ETC.
11.	CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL MECHANICAL EQUIPMENT, CONTROLS AND ACCESSORIES COORDINATED WITH ALL TRADES AT ONE TIME, INDEXED IN A NEAT AND ORDERLY MANNER. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. CONTRACTOR SHALL NOT ORDER ANY EQUIPMENT WITHOUT APPROVAL FROM ENGINEER, ARCHITECT, OWNER, AND INTERIOR DESIGNER (IF APPLICABLE).
12.	COORDINATE EXACT LOCATION OF ALL DIFFUSERS AND RETURNS WITH ARCHITECTURAL REFLECTED CEILING PLAN.
13.	CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL CONCEALED MECHANICAL EQUIPMENT. PANELS IN RATED WALLS OR CEILING MUST MAINTAIN THE SAME RATING AND MUST MATCH THE FINISH OF THE WALL OR CEILING IN WHICH IS INSTALLED.
14.	MATERIALS ALLOWED IN RETURN AIR PLENUMS OR ABOVE CEILING USED AS RETURN AIR PLENUM SHALL COMPLY WITH FMC-2014, SECTION 602.1. IF SPACE WITH RETURN AIR PLENUM HAS ANY DECK TO DECK PARTITIONS, AIR TRANSFER DUCTS MUST BE INSTALLED. WHEN CPVC PIPING IS USED FOR FIRE SPRINKLER SYSTEMS, THE R/A GRILLES LAYOUT SHALL BE (FIELD) COORDINATED WITH SUCH PIPING SO THAT NO PORTION OF THE GRILLES WILL BE DIRECTLY BELOW THE CPVC PIPING. STUD CAVITIES AND JOIST SPACE PLENUMS SHALL COMPLY WITH FMC-2014, SEC. 602.3.
15.	CONDENSATE DRAIN PIPING TO BE AS SPECIFIED PER PLUMBING PLANS. IF NOT SPECIFIED THEY SHALL BE TYPE "L" COPPER, CPVC OR SCHEDULE 40 PVC WHERE ALLOWED BY CODE. PROVIDE 3/4" THICK AP/ARMAFLEX SS (SELF-SEAL) INSULATION FOR ALL HORIZONTAL ABOVE-GRADE PIPING. PROVIDE APPROVED WATER LEVEL DETECTOR OR FLOAT SWITCH TO AUTOMATICALLY SHUT DOWN THE AIR COND. UNIT, AS A SECONDARY DRAIN SYSTEM TO COMPLY WITH FMC-2014, SEC. 307.2. SUPPLY CONDENSATE PUMP WHERE NECESSARY AS IMPOSED BY FIELD CONDITIONS OR INSTALLATION CHANGES AND PIPE TO CONDENSATE DRAIN PER PLUMBING PLANS. PVC PIPING EXPOSED TO SUNLIGHT SHALL BE COATED WITH AN ULTRA VIOLET INHIBITING MATERIAL.
16.	RUN INSULATED FIRE RATED CONDENSATE DRAINS AS REQUIRED. AUXILIARY DRAIN PANS SHALL BE INSTALLED UNDER ALL COILS ON WHICH CONDENSATION CAN OCCUR AND UNDER ALL UNITS IN CONCEALED SPACES OR ANY AREA WHERE BLDG. DAMAGE CAN OCCUR AS A RESULT OF AN OVERFLOW. TO COMPLY WITH FMC-2014, SEC. 307.2. AN ALTERNATE WATER-DETECTION LEVEL DEVICE TO SHUT DOWN THE EQUIPMENT IS ACCEPTABLE.
17.	LOCATE THERMOSTATS, TEMPERATURE SENSORS, HUMIDISTATS, AND HUMIDITY SENSORS AS PER A.D.A REQUIREMENTS WHERE APPLICABLE; MAX. 48" ABOVE FINISHED FLOOR HIGH FOR FORWARD REACH, MAX. 54" A.F.F. HIGH FOR SIDE REACH. COORDINATE LOCATIONS WITH OTHER EQUIPMENT, FURNITURE, AND DOOR SWINGS. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR ALL REQUIREMENTS FOR JUNCTION BOXES, CONDUITS, CONTROL WIRING, POWER, ETC. AND DEFINE RESPONSIBILITIES AND SCOPE OF WORK FOR EACH TRADE PRIOR TO PURCHASING/INSTALLATION.

BUILDING ENVELOPE					
TYPE	DESCRIPTION	R-VALUE (ASSEMBLY)	SUMMER U-VALUE	SHADING COEFFICIENT	SOLAR HEAT GAIN COEFFICIENT
EXISTING ROOF	4" LIGHTWEIGHT CONCRETE R-7 INSULATION/BUILT-UP ROOFING	R-11.63	0.086		
EXISTING WALL	STUCCO/8" CMU	R-3.8	0.263		
GROUND SLAB	VAPOR RETARDER SLAB ON GRADE		0.100		
GLASS WINDOWS	7/16" CLEAR LAMINATED		1.0	0.75	0.7
GLASS DOORS	7/16" CLEAR LAMINATED		1.0	0.75	0.7

KEY NOTES:
THE VALUES SHOWN ABOVE ARE AS PER SPECIFICATIONS GIVEN BY ARCHITECT AND WERE USED TO SIZE THE HVAC EQUIPMENT AND INPUTED INTO THE ENERGY CALCULATIONS FOR CODE COMPLIANCE UNDER THE PERFORMANCE BASIS METHOD. THE INFORMATION PROVIDED HERE ARE BY NO MEANS TO BE USED AS A SPECIFICATION OF THE BUILDING ENVELOPE, CONSULT ARCHITECTURAL PLANS FOR SUCH. NO CHANGES SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF OWNER, ARCHITECT, AND ENGINEER.

AIR DISTRIBUTION SCHEDULE								
TYPE	MFG	MODEL	CFM	PATTERN	DAMPER	MOUNTING	MAX N.C.	NECK
A	TITUS	300FL	3000	1-WAY	-	SURFACE	30	28"x28"
B	TITUS	350FL	2900	-	-	SURFACE	30	28"x28"

NOTES:
1) CONFIRM BORDER TYPE AND FINISH WITH ARCHITECT PRIOR TO PURCHASING.

MECHANICAL DRAWING LIST	
DRAWING NUMBER	DRAWING NAME
M-01	MECHANICAL NOTES, LEGEND AND SCHEDULES
M-11	MECHANICAL FLOOR PLAN
M-21	MECHANICAL DETAILS

NOTE	
THESE DRAWINGS ARE PREPARED PER ESTABLISHED INDUSTRY STANDARDS AND REPRESENT THE ENGINEERS DESIGN CONCEPT. THEY ARE NOT INTENDED TO PROVIDE EVERY DETAIL OR CONDITION REQUIRED TO CONSTRUCT THE BUILDING. THE CONTRACTOR THROUGH SUBMITTALS AND OTHER COORDINATION EFFORTS IS FULLY RESPONSIBLE FOR PROVIDING A COMPLETE AND OPERATIONAL BUILDING WHETHER INDICATED ON THE P L A N S O R N O T.	

M-01

of 3

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MECHANICAL NOTES, LEGEND AND SCHEDULES