

**SPECIFICATIONS**

**SECTION 230100 - GENERAL:**

- A. GENERAL**
- CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, TOOLS AND LABOR NECESSARY TO PROVIDE A COMPLETE MECHANICAL SYSTEM COMPLIANT WITH ALL REQUIRED CODES & STANDARDS.
  - DRAWINGS ARE SCHEMATIC IN NATURE AND SHALL NOT BE SCALED.
  - ALL REQUIRED PERMITS & INSPECTIONS SHALL BE SECURED & PAID FOR UNDER THIS CONTRACT. INSPECTION CERTIFICATIONS SHALL BE PROVIDED TO THE OWNER.
  - CONTRACTOR SHALL VISIT THE SITE TO THOROUGHLY EXAMINE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. IF EXISTING CONDITIONS DIFFER FROM DESIGN DOCUMENTS IN SUCH A MANNER THAT AFFECTS PRICING, THE CONTRACTOR SHALL ADJUST THE BID ACCORDINGLY AND NOTIFY THE OWNER & ENGINEER PRIOR TO SUBMITTING THE BID. NO ALLOWANCES WILL BE MADE FOR LACK OF KNOWLEDGE REGARDING THE EXISTING CONDITIONS.
- B. VIBRATION ISOLATION**
- VIBRATION ISOLATION SHALL BE PROVIDED FOR ALL MOTOR DRIVEN EQUIPMENT SUSPENDED FROM STRUCTURE OR MOUNTED ON FLOOR. VIBRATION ISOLATORS SHALL BE SIZED PER EQUIPMENT MANUFACTURER'S REQUIREMENTS.
- C. IDENTIFICATION**
- PERMANENT BAKELITE TAGS WITH 1" TALL LETTERS SHALL BE PROVIDED FOR ALL EQUIPMENT. EQUIPMENT NUMBERING SHALL MATCH BUILDING STANDARDS.
- D. SUBMITTALS & SHOP DRAWINGS**
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS & PRODUCT DATA FOR ALL MECHANICAL EQUIPMENT & SYSTEMS TO BE PROVIDED AND/OR INSTALLED.
- F. SUBSTITUTE MANUFACTURERS**
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION & COST OF ALL CHANGES REQUIRED FOR INSTALLATION OF EQUIPMENT & PRODUCTS MANUFACTURED BY THOSE OTHER THAN WHAT IS SPECIFIED IN THE CONTRACT DOCUMENTS.
  - CAREFULLY COORDINATE SUBSTITUTE MANUFACTURER'S INSTALLATION REQUIREMENTS WITH ALL OTHER TRADES INCLUDING BUT NOT LIMITED TO STRUCTURE, ELECTRICAL, PLUMBING AND ARCHITECTURAL. ALL INSTALLATION COSTS ASSOCIATED WITH INSTALLATION OF SUBSTITUTE MANUFACTURER SHALL BE INCLUDED IN BID. NO ALLOWANCES SHALL BE GIVEN FOR CHANGES ASSOCIATED WITH INSTALLATION OF SUBSTITUTE EQUIPMENT & SYSTEMS.
  - LISTING OF A MANUFACTURER AS AN "EQUAL" DOES NOT RELIEVE CONTRACTOR'S RESPONSIBILITY OF COORDINATION & COST ASSOCIATED WITH CHANGES REQUIRED TO OTHER TRADES.
- G. WARRANTY**
- CONTRACTOR SHALL WARRANT ALL EQUIPMENT, MATERIALS AND WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR.
  - ALL HVAC COMPRESSORS SHALL BE WARRANTED FOR A PERIOD OF NOT LESS THAN 5 YEARS.
- H. AS-BUILT DRAWINGS**
- CONTRACTOR SHALL KEEP REDLINE SET OF DRAWINGS ON SITE DURING CONSTRUCTION TO UPDATE LOCATION OF ALL EQUIPMENT AND SYSTEMS AS THE CONSTRUCTION PROGRESSES. REDLINE SET OF DRAWINGS SHALL BE TURNED OVER TO OWNER AT COMPLETION OF CONSTRUCTION.
- I. OPERATION & MAINTENANCE MANUALS**
- CONTRACTOR SHALL PROVIDE AN ELECTRONIC SET AND ONE (1) SET OF HARD COPIES OF INSTALLATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT & SYSTEMS PROVIDED UNDER THIS CONTRACT.
- J. INSTRUCTION**
- CONTRACTOR SHALL THOROUGHLY INSTRUCT OWNER ON OPERATION AND RECOMMENDED MAINTENANCE PROCEDURES OF ALL INSTALLED EQUIPMENT & SYSTEMS.

**SECTION 238000 - DUCTWORK**

- ALL DUCTWORK SHALL BE FABRICATED WITH GALVANIZED SHEET METAL.
- LOW PRESSURE DUCTWORK, INSTALLED DOWN STREAM OF TERMINAL UNITS, SHALL BE CONSTRUCTED FOR 2" PRESSURE SERVICE WITH CLASS C SEALS.
- DUCTWORK CONSTRUCTION AND INSTALLATION SHALL CONFORM TO THE LATEST VERSION OF SMACNA DUCT STANDARDS.
- ALL ELBOWS SHALL BE FULL RADIUS TYPE OR MITERED WITH TURNING VANES.
- PROVIDE SPIN IN FITTING WITH SCOOP & LOCKING DAMPER AT ALL LOW PRESSURE BRANCH DUCT CONNECTIONS TO MAIN DUCT.
- DUCTWORK SHALL BE INSPECTED & SEALED AIR TIGHT TO BE FREE OF LEAKS PRIOR TO INSULATING OR COVERING UP THE DUCTWORK.

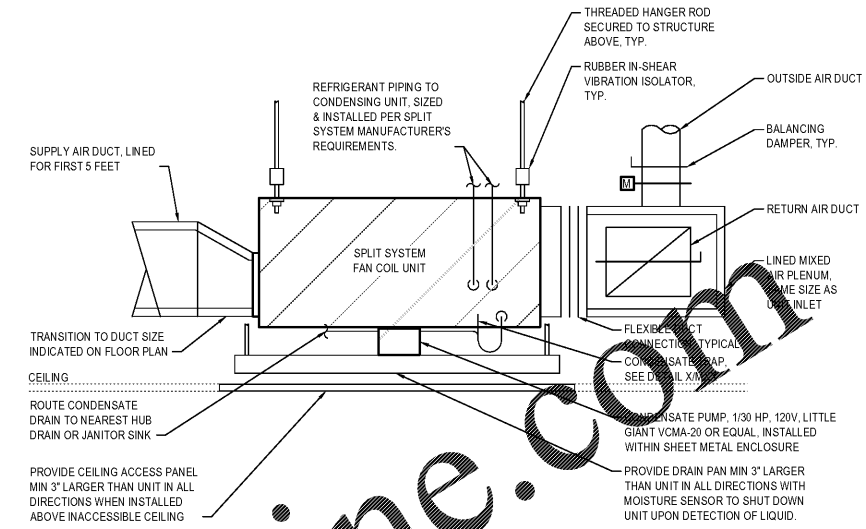
**SECTION 239500 - TEST & BALANCE**

- TEST & BALANCE AGENCY SHALL BE NEBB OR AABC CERTIFIED.
- TEST & BALANCE AGENCY SHALL BE HIRED DIRECTLY BY THE GENERAL CONTRACTOR.
- ALL EQUIPMENT SHALL BE LUBRICATED, TESTED, ADJUSTED AND BALANCED TO MEET DESIGN, MANUFACTURER'S OPERATING & INSTALLATION GUIDELINES.
- AIR TERMINALS SHALL BE BALANCED TO CFM INDICATED ON PLAN.
- TERMINAL UNITS SHALL BE BALANCED TO THE SUM OF THE CONNECTED AIR DISTRIBUTION DEVICES.
- ALL DEFICIENCIES SHALL BE RECORDED AND SENT TO THE MECHANICAL CONTRACTOR FOR RESOLUTION.
- ONCE ALL DEFICIENCIES HAVE BEEN CORRECTED, TWO (2) HARD COPIES OF THE FINAL REPORT SHALL BE DELIVERED TO THE OWNER. AN ELECTRONIC COPY IN PDF FORMAT SHALL BE SUBMITTED IN ADDITION TO THE HARD COPIES.

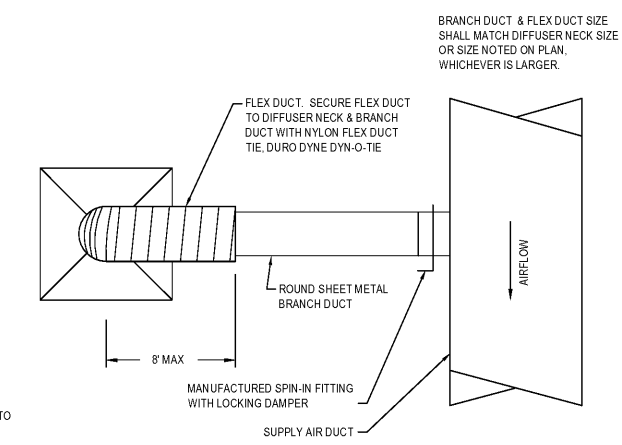
**GENERAL NOTES:**

- TEST AND BALANCE ALL MECHANICAL EQUIPMENT, AIR DISTRIBUTION DEVICES, ETC. TO THE CONDITIONS INDICATED ON THE FLOOR PLANS AND SCHEDULES. A COPY OF THE REPORT SHALL BE SUBMITTED TO THE OWNER. TEST AND BALANCE AGENCY SHALL BE NEBB OR AABC CERTIFIED.
- ALL EXPOSED DUCTWORK SHALL BE PAINT GRIP SPIRAL DUCT, FREE OF DENTS & READY FOR PAINT.

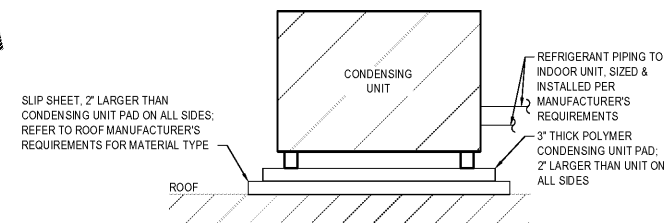
LEGEND		
TAG	SYMBOL	DESCRIPTION
A/C		ABOVE CEILING
AHU		AIR HANDLER
BDD		BACKDRAFT DAMPER
B/F		BELOW FLOOR
CD	☒	CEILING DIFFUSER
CWS&R		CONDENSER WATER SUPPLY & RETURN
CFM		CUBIC FOOT PER MIN.
DB		DRY BULB
	—	NEW DUCT WORK
EXIST.	.....	EXISTING DUCT / PIPE
EAT		ENTERING AIR TEMPERATURE
EWT		ENTERING WATER TEMPERATURE
EF		EXHAUST FAN
ER	☒	EXHAUST REGISTER
ESP		EXTERNAL STATIC PRESSURE
FD		FIRE DAMPER
FSD		COMBINATION FIRE & SMOKE DAMPER
	—	VERTICAL FIRE DAMPER
	—	VERTICAL COMBINATION FIRE & SMOKE DAMPER
HP		HORSEPOWER
LAT		LEAVING AIR TEMPERATURE
LWT		LEAVING WATER TEMPERATURE
MD		MANUAL DAMPER
OA	☒	MOTOR OPERATED DAMPER
OA		OUTSIDE AIR
RA		RETURN AIR
RAG	☒	RETURN AIR GRILLE
SA		SUPPLY AIR
SR		SUPPLY REGISTER
	⊖	THERMOSTAT
	⊗	BALL VALVE
WSHP		WATER SOURCE HEAT PUMP



**1 SUSPENDED HORIZONTAL FAN COIL UNIT DETAIL**  
M001 SCALE: N.T.S.



**2 DIFFUSER CONNECTION DETAIL**  
M001 SCALE: N.T.S.



**3 CONDENSING UNIT ON ROOF DETAIL**  
M001 SCALE: N.T.S.

AIR DISTRIBUTION SCHEDULE		
TAG	DESCRIPTION	BASIS OF DESIGN
CD	CEILING SUPPLY DIFFUSERS (CD) SHALL BE ALUMINUM, STAMPED DIFFUSER WITH 3 ADJUSTABLE CONES. FACE AREA SHALL BE SUITABLE FOR 24"x24" LAY-IN CEILING GRID. PROVIDE WITH BAKED ENAMEL FINISH IN A COLOR MATCHING THE CEILING GRID.	TITUS TMS-AA
RAG	RETURN AIR GRILLES (RAG) SHALL BE ALUMINUM EGGCRATE WITH ALUMINUM BORDER SIZED FOR INSTALLATION IN A 24X24 CEILING MODULE. PROVIDE LINED RETURN AIR PLENUM FULL SIZE OF GRILLE CONNECTION WITH DUCT CONNECTION SIZE INDICATED ON PLAN.	TITUS 50F

NOTES: 1. ALL SURFACE MOUNTED AIR DISTRIBUTION DEVICES SHALL BE PREPPED AND READY FOR PAINT.

Order Plans @

HEAT PUMP SPLIT SYSTEM SCHEDULE																		
TAG	AIRFLOW (CFM)	EXT. S.P. (IN W.C.)	OUTSIDE AIR (CFM)	DESIGN H.P.	TOTAL COOLING CAPACITY (MBH)	SENSIBLE COOLING CAPACITY (MBH)	COOLING EAT DB/WB (F)	HEATING CAPACITY (MBH @ 17°F)	AUX. HEATING CAPACITY (KW OUTPUT)	AUX. HEATING STAGES	MIN. EER	MIN. HSPF	OUTDOOR TEMPERATURE (F)	INDOOR UNIT VOLTS/ PHASE	CONDENSING UNIT VOLTS/ PHASE	ORIENTATION	BASIS OF DESIGN	NOTES
FC/CU-1	1500	0.5	275	3/4	48.0	35.0	80/67	29.6	7.2	1	14.0	8.5	95	208/1	208/3	HORIZONTAL	TRANE GAM5BOC48 / 4TWA4048	1,2

- NOTES:
- PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT. THERMOSTAT SHALL HAVE PROGRAMMABLE OCCUPANCY PERIODS TO ENERGIZE SUPPLY FAN DURING OCCUPIED PERIODS. INTERLOCK THERMOSTAT WITH ASSOCIATED DUCT HEATER. PROVIDE MULTIPLE HEATING STAGES
  - PROVIDE WITH LITTLE GIANT CONDENSATE PUMP.
  - INSTALL SMOKE DETECTOR, PROVIDED BY DM. 26.

**M001**  
MECHANICAL LEGEND,  
NOTES, DETAILS &  
SCHEDULES  
1/4" = 1'

ISSUES  
11.20.20 PERMIT SET

**9Round - Atlanta**  
1745 Peachtree Road NW, Suite L  
Atlanta, GA 30309  
Project Number: 739.00

ISSUED FOR CONSTRUCTION

**STRUCTURAL**

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**CIVIL**

