

Project Information

For: Columbia County, FL

Notes:

Design Information

Weather: Gainesville, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	70 °F
Design TD	37 °F

Summer Design Conditions

Outside db	92 °F
Inside db	75 °F
Design TD	17 °F
Daily range	M
Relative humidity	50 %
Moisture difference	43 gr/lb

Heating Summary

Structure	32567 Btuh
Ducts	4548 Btuh
Central vent (144 cfm)	5778 Btuh
Outside air	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	42893 Btuh

Sensible Cooling Equipment Load Sizing

Structure	22504 Btuh
Ducts	3072 Btuh
Central vent (144 cfm)	2739 Btuh
Outside air	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	27579 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	3575 Btuh
Ducts	795 Btuh
Central vent (144 cfm)	4231 Btuh
Outside air	
Equipment latent load	8600 Btuh

	Heating	Cooling
Area (ft ²)	4042	4042
Volume (ft ³)	40433	40433
Air changes/hour	0.28	0.15
Equiv. AVF (cfm)	189	101

Equipment Total Load (Sen+Lat)	36179 Btuh
Req. total capacity at 0.80 SHR	2.9 ton

Heating Equipment Summary

Make	Goodman Mfg.
Trade	GOODMAN
Model	GSZB404210A
AHRI ref	210318452
Efficiency	7.5 HSPF2
Heating input	
Heating output	39500 Btuh @ 47°F
Temperature rise	27 °F
Actual air flow	1333 cfm
Air flow factor	0.036 cfm/Btuh
Static pressure	0.53 in H2O
Space thermostat	
Capacity balance point = 36 °F	
Backup:	
Input = 0 kW, Output = 0 Btuh, 100 AFUE	

Cooling Equipment Summary

Make	Goodman Mfg.
Trade	GOODMAN
Cond	GSZB404210A
Coil	AMST42CU1400A
AHRI ref	210318452
Efficiency	12.0 EER2, 14.5 SEER2
Sensible cooling	32000 Btuh
Latent cooling	8000 Btuh
Total cooling	40000 Btuh
Actual air flow	1333 cfm
Air flow factor	0.052 cfm/Btuh
Static pressure	0.53 in H2O
Load sensible heat ratio	0.77

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	28315	Btuh	Entering coil DB:	77.2°F
Outdoor design WB:	75.8°F	Latent gain:	8600	Btuh	Entering coil WB:	64.4°F
Indoor design DB:	75.0°F	Total gain:	36915	Btuh		
Indoor RH:	50%	Estimated airflow:	1333	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Goodman Mfg.	Model:	GSZB404210A+AMST42CU1400A
Actual airflow:	1333	cfm	
Sensible capacity:	32000	Btuh	113% of load
Latent capacity:	8000	Btuh	93% of load
Total capacity:	40000	Btuh	108% of load SHR: 80%

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	42893	Btuh	Entering coil DB:	65.6°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Goodman Mfg.	Model:	GSZB404210A+AMST42CU1400A
Actual airflow:	1333	cfm	
Output capacity:	39500	Btuh	92% of load
Supplemental heat required:	3393	Btuh	
Capacity balance:	36	°F	
Economic balance:	-99	°F	

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1333	cfm	
Output capacity:	0	kW	0% of load Temp. rise: 0 °F

Meets all requirements of ACCA Manual S.