Project Summary
Entire House

Job: J-12046 - C-1309
Date: Jun 24, 2025
By: LaNiika Stewart

Project Information

For: Phelps Construction
Lake City, FL

Notes:

Design Information

Weather: Gainesville, FL, US

Winter Design Conditions

Outside db	33	°F
Inside db	70	°F
Design TD	37	°F
Ventilation Method	ASHRAE 62.2-2019	

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	40864	Btuh
Ducts (R-6.0)	5027	Btuh
Central vent (180 cfm)	7234	Btuh
Outside air		
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	53126	Btuh

Sensible Cooling Equipment Load Sizing

Structure	31517	Btuh
Ducts (R-6.0)	3714	Btuh
Central vent (180 cfm)	3430	Btuh
Outside air		
Blower	0	Btuh
Use manufacturer's data	n	
Rate/swing multiplier	0.97	
Equipment sensible load	37656	Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	2500	2500
Volume (ft³)	52290	52290
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	279	139

Latent Cooling Equipment Load Sizing

Structure	6904	Btuh
Ducts	2148	Btuh
Central vent (180 cfm)	5297	Btuh
Outside air		
Equipment latent load	14349	Btuh
Equipment Total Load (Sen+Lat)	52005	Btuh
Req. total capacity at 0.80 SHR	3.9	ton

Heating Equipment Summary

Make	Rheem
Trade	
Model	RP14AY60AJ2NA
AHRI ref	214803216

Efficiency	7.8 HSPF2	
Heating input		
Heating output	55000	Btuh @ 47°F
Temperature rise	26	°F
Actual air flow	1900	cfm
Air flow factor	0.041	cfm/Btuh
Static pressure	0.53	in H2O
Space thermostat		

Capacity balance point = 0 °F

Backup:
Input = 15 kW, Output = 51808 Btuh, 100 AFUE

Cooling Equipment Summary

Make	Rheem
Trade	
Cond	RP14AY60AJ2NA
Coil	RH2TY6024STANNJ
AHRI ref	214803216

Efficiency	11.7 EER2,15.2 SEER2	
Sensible cooling	45600	Btuh
Latent cooling	11400	Btuh
Total cooling	57000	Btuh
Actual air flow	1900	cfm
Air flow factor	0.054	cfm/Btuh
Static pressure	0.53	in H2O
Load sensible heat ratio	0.73	

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

Manual S Compliance Report
Entire House

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	38661	Btuh	Entering coil DB:	77.2°F
Outdoor design WB:	75.8°F	Latent gain:	14349	Btuh	Entering coil WB:	64.4°F
Indoor design DB:	75.0°F	Total gain:	53010	Btuh		
Indoor RH:	50%	Estimated airflow:	1900	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Rheem		Model:	RP14AY60AJ2NA+RH2TY6024STANNJ	
Actual airflow:	1900	cfm			
Sensible capacity:	45600	Btuh	118% of load		
Latent capacity:	11400	Btuh	79% of load		
Total capacity:	57000	Btuh	108% of load	SHR:	80%

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	53126	Btuh	Entering coil DB:	66.0°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP					
Manufacturer:	Rheem		Model:	RP14AY60AJ2NA+RH2TY6024STANNJ		
Actual airflow:	1900	cfm				
Output capacity:	55000	Btuh	104% of load		Capacity balance:	0 °F
Supplemental heat required:	0	Btuh			Economic balance:	0 °F

Backup equipment type:	Elec strip					
Manufacturer:			Model:			
Actual airflow:	1900	cfm				
Output capacity:	15.2	kW	98% of load	Temp. rise:	0	°F

Meets all requirements of ACCA Manual S.