

Project Information

For: Standridge Residence
 525 SW Pinehurst Drive, Lake City, FL

Notes:



Design Information

Weather: Gainesville Regional, 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 44 gr/lb

Heating Summary

Structure 29940 Btuh
 Ducts 4488 Btuh
 Central vent (0 cfm) 0 Btuh
 (none)
 Humidification 0 Btuh
 Piping 0 Btuh
 Equipment load 34428 Btuh

Sensible Cooling Equipment Load Sizing

Structure 23531 Btuh
 Ducts 6226 Btuh
 Central vent (0 cfm) 0 Btuh
 (none)
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.97
 Equipment sensible load 28923 Btuh

Infiltration

Method Simplified
 Construction quality Average
 Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 2234 Btuh
 Ducts 1282 Btuh
 Central vent (0 cfm) 0 Btuh
 (none)
 Equipment latent load 3516 Btuh

	Heating	Cooling
Area (ft²)	2267	2267
Volume (ft³)	18134	18134
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	97	48

Equipment Total Load (Sen+Lat) 32439 Btuh
 Req. total capacity at 0.80 SHR 3.0 ton

Heating Equipment Summary

Make Trane
 Trade TRANE
 Model 4TWR5036H1
 AHRI ref 10153294
 Efficiency 9.5 HSPF
 Heating input 33000 Btuh @ 47°F
 Heating output 26 °F
 Temperature rise 1160 cfm
 Actual air flow 0.034 cfm/Btuh
 Air flow factor 0.53 in H2O
 Static pressure
 Space thermostat
 Capacity balance point = 35 °F

Cooling Equipment Summary

Make Trane
 Trade TRANE
 Cond 4TWR5036H1
 Coil TEM8A0C36V31++TDR
 AHRI ref 10153294
 Efficiency 12.5 EER, 15 SEER
 Sensible cooling 27840 Btuh
 Latent cooling 6960 Btuh
 Total cooling 34800 Btuh
 Actual air flow 1160 cfm
 Air flow factor 0.039 cfm/Btuh
 Static pressure 0.53 in H2O
 Load sensible heat ratio 0.89

Backup:
 Input = 10 kW, Output = 34474 Btuh, 100 AFUE

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

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	29756	Btuh	Entering coil DB:	77.4°F
Outdoor design WB:	75.8°F	Latent gain:	3516	Btuh	Entering coil WB:	63.7°F
Indoor design DB:	75.0°F	Total gain:	33273	Btuh		
Indoor RH:	50%	Estimated airflow:	1160	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Trane	Model:	4TWR5036H1+TEM8A0C36V31++TDR		
Actual airflow:	1160	cfm			
Sensible capacity:	30002	Btuh	101%	of load	
Latent capacity:	4195	Btuh	119%	of load	
Total capacity:	34197	Btuh	103%	of load	SHR: 88%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	34428	Btuh	Entering coil DB:	68.8°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Trane	Model:	4TWR5036H1+TEM8A0C36V31++TDR		
Actual airflow:	1160	cfm			
Output capacity:	25595	Btuh	74%	of load	Capacity balance: 35 °F
Supplemental heat required:	8833	Btuh			Economic balance: -99 °F

Backup equipment type:	Elec strip				
Manufacturer:		Model:			
Actual airflow:	1160	cfm			
Output capacity:	10.1	kW	100%	of load	Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.