

Project Information

For: Caleb & Christine Douglas
 5062 SW Birley Ave, Lake City, FL 32025

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 24747 Btuh
 Ducts 6620 Btuh
 Central vent (0 cfm) 0 Btuh
 (none)
 Humidification 0 Btuh
 Piping 0 Btuh
 Equipment load 31367 Btuh

Sensible Cooling Equipment Load Sizing

Structure 21406 Btuh
 Ducts 9139 Btuh
 Central vent (0 cfm) 0 Btuh
 (none)
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.97
 Equipment sensible load 29690 Btuh

Infiltration

Method Simplified
 Construction quality Average
 Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 2597 Btuh
 Ducts 1870 Btuh
 Central vent (0 cfm) 0 Btuh
 (none)
 Equipment latent load 4466 Btuh

	Heating	Cooling
Area (ft ²)	2077	2077
Volume (ft ³)	20196	20196
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	108	54

Equipment Total Load (Sen+Lat) 34156 Btuh
 Req. total capacity at 0.80 SHR 3.1 ton

Heating Equipment Summary

Make Trane
 Trade TRANE
 Model 4TWR5042H1
 AHRI ref 10153297
 Efficiency 9 HSPF
 Heating input 38500 Btuh @ 47°F
 Heating output 26 °F
 Temperature rise 1367 cfm
 Actual air flow 0.044 cfm/Btuh
 Air flow factor 0.53 in H2O
 Static pressure
 Space thermostat
 Capacity balance point = 28 °F

Cooling Equipment Summary

Make Trane
 Trade TRANE
 Cond 4TWR5042H1
 Coil TEM8A0C42V41++TDR
 AHRI ref 10153297
 Efficiency 12.5 EER, 15 SEER
 Sensible cooling 32800 Btuh
 Latent cooling 8200 Btuh
 Total cooling 41000 Btuh
 Actual air flow 1367 cfm
 Air flow factor 0.045 cfm/Btuh
 Static pressure 0.53 in H2O
 Load sensible heat ratio 0.87

Backup:
 Input = 9 kW, Output = 30774 Btuh, 100 AFUE

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



Manual S Compliance Report Entire House

Job: Douglas Residence - C-...
Date: Apr 29, 2021
By: James Bolton
Plan: J-4916

Project Information

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	30545	Btuh	Entering coil DB:	77.9°F
Outdoor design WB:	75.8°F	Latent gain:	4466	Btuh	Entering coil WB:	63.9°F
Indoor design DB:	75.0°F	Total gain:	35012	Btuh		
Indoor RH:	50%	Estimated airflow:	1367	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Trane	Model:	4TWR5042H1+TEM8A0C42V41++TDR		
Actual airflow:	1367	cfm			
Sensible capacity:	34207	Btuh	112% of load		
Latent capacity:	4942	Btuh	111% of load		
Total capacity:	39149	Btuh	112% of load	SHR:	87%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	31367	Btuh	Entering coil DB:	68.6°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Trane	Model:	4TWR5042H1+TEM8A0C42V41++TDR		
Actual airflow:	1367	cfm			
Output capacity:	29752	Btuh	95% of load	Capacity balance:	28 °F
Supplemental heat required:	1615	Btuh		Economic balance:	-99 °F

Backup equipment type:	Elec strip				
Manufacturer:		Model:			
Actual airflow:	1367	cfm			
Output capacity:	9.0	kW	98% of load	Temp. rise:	50 °F

Meets all requirements of ACCA Manual S.

