wrightsoft

Project Summary
Entire House

Job: J-8043 - C-1309
Date: Mar 02, 2022
By: LaTisha Furmon

Project Information

For: Dicks Residence
Columbia County, 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	38476	Btuh
Ducts	6747	Btuh
Central vent (0 cfm) (none)	0	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	45223	Btuh

Sensible Cooling Equipment Load Sizing

Structure	25624	Btuh
Ducts	9829	Btuh
Central vent (0 cfm) (none)	0	Btuh
Blower	0	Btuh
Use manufacturer's data	y	
Rate/swing multiplier	1.00	
Equipment sensible load	35453	Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	2653	2653
Volume (ft³)	28511	28511
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	152	76

Latent Cooling Equipment Load Sizing

Structure	3054	Btuh
Ducts	2080	Btuh
Central vent (0 cfm) (none)	0	Btuh
Equipment latent load	5134	Btuh
Equipment Total Load (Sen+Lat)	40587	Btuh
Req. total capacity at 0.80 SHR	3.7	ton

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	4TWR4048G1
AHRI ref	8908430

Efficiency	8.5 HSPF	
Heating input		
Heating output	46500	Btuh @ 47°F
Temperature rise	27	°F
Actual air flow	1550	cfm
Air flow factor	0.034	cfm/Btuh
Static pressure	0.53	in H2O
Space thermostat		

Capacity balance point = 33 °F

Backup:
Input = 13 kW, Output = 44065 Btuh, 100 AFUE

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	4TWR4048G1
Coil	TEM4A0C48S41++TDR
AHRI ref	8908430

Efficiency	11.5 EER, 14 SEER	
Sensible cooling	37200	Btuh
Latent cooling	9300	Btuh
Total cooling	46500	Btuh
Actual air flow	1550	cfm
Air flow factor	0.044	cfm/Btuh
Static pressure	0.53	in H2O
Load sensible heat ratio	0.87	

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:	92.2°F	Sensible gain:	35453	Btuh	Entering coil DB:	78.2°F
Outdoor design WB:	75.8°F	Latent gain:	5134	Btuh	Entering coil WB:	64.0°F
Indoor design DB:	75.0°F	Total gain:	40587	Btuh		
Indoor RH:	50%	Estimated airflow:	1550	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Trane		Model:	4TWR4048G1+TEM4A0C48S41++TDR	
Actual airflow:	1550	cfm			
Sensible capacity:	37200	Btuh	105% of load		
Latent capacity:	9300	Btuh	181% of load		
Total capacity:	46500	Btuh	115% of load	SHR:	80%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	45223	Btuh	Entering coil DB:	68.4°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP					
Manufacturer:	Trane		Model:	4TWR4048G1+TEM4A0C48S41++TDR		
Actual airflow:	1550	cfm				
Output capacity:	46500	Btuh	103% of load		Capacity balance:	33 °F
Supplemental heat required:		0 Btuh			Economic balance:	-99 °F

Backup equipment type:	Elec strip					
Manufacturer:			Model:			
Actual airflow:	1550	cfm				
Output capacity:	12.9	kW	97% of load	Temp. rise:	50	°F

Meets all requirements of ACCA Manual S.