wrightsoft

Project Summary
Entire House

Job: J-11432 - C-1309
Date: Dec 16, 2024
By: LaNiika Stewart

Project Information

For: NORTON RESIDENCE
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	MJ8	

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	31454	Btuh
Ducts (R-6.0)	9345	Btuh
Central vent (0 cfm)	0	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	40799	Btuh

Sensible Cooling Equipment Load Sizing

Structure	26958	Btuh
Ducts (R-6.0)	13112	Btuh
Central vent (0 cfm)	0	Btuh
Blower	0	Btuh
Use manufacturer's data	n	
Rate/swing multiplier	0.97	
Equipment sensible load	39028	Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	2794	2794
Volume (ft³)	27731	27731
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	148	74

Latent Cooling Equipment Load Sizing

Structure	2976	Btuh
Ducts	2694	Btuh
Central vent (0 cfm)	0	Btuh
Equipment latent load	5671	Btuh
Equipment Total Load (Sen+Lat)	44699	Btuh
Req. total capacity at 0.80 SHR	4.1	ton

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	4TWR4060N1000A
AHRI ref	209842243
Efficiency	7.5 HSPF2
Heating input	
Heating output	55000 Btuh @ 47°F
Temperature rise	27 °F
Actual air flow	1833 cfm
Air flow factor	0.045 cfm/Btuh
Static pressure	0.53 in H2O
Space thermostat	

Capacity balance point = 25 °F

Backup:
Input = 10 kW, Output = 35767 Btuh, 100 AFUE

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	4TWR4060N1000A
Coil	TEM4B0C60S51SA
AHRI ref	209842243
Efficiency	11.7 EER2,14.3 SEER2
Sensible cooling	44000 Btuh
Latent cooling	11000 Btuh
Total cooling	55000 Btuh
Actual air flow	1833 cfm
Air flow factor	0.046 cfm/Btuh
Static pressure	0.53 in H2O
Load sensible heat ratio	0.88

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:	40070	Btuh	Entering coil DB:	78.3°F
Outdoor design WB:	75.8°F	Latent gain:	5671	Btuh	Entering coil WB:	64.0°F
Indoor design DB:	75.0°F	Total gain:	45741	Btuh		
Indoor RH:	50%	Estimated airflow:	1833	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
Manufacturer: Trane Model: 4TWR4060N1000A+TEM4B0C60S51SA

Actual airflow:	1833	cfm		
Sensible capacity:	44121	Btuh	110% of load	
Latent capacity:	8341	Btuh	147% of load	
Total capacity:	52461	Btuh	115% of load	SHR: 84%

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	40799	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: 4TWR4060N1000A+TEM4B0C60S51SA

Actual airflow:	1833	cfm			
Output capacity:	55000	Btuh	135% of load	Capacity balance:	25 °F
Supplemental heat required:	0	Btuh		Economic balance:	-99 °F

Backup equipment type: Elec strip
Manufacturer: Model:

Actual airflow:	1833	cfm			
Output capacity:	10.5	kW	88% of load	Temp. rise:	50 °F

Meets all requirements of ACCA Manual S.