



Project Summary Entire House

Job: J-11770 - C-1309

Date: Mar 14, 2025

By: LaNiika Stewart

Project Information

For: Rosenboom/Remillet Residence
Alachua County, FL



Review for Code Compliance
Universal Engineering Science

Notes:

LaNiika Stewart
Examiner-License No.

PX2707

05/10/2025

Design Information

Weather: Gainesville, FL, US

Winter Design Conditions

Outside db 33 °F
Inside db 70 °F
Design TD 37 °F

Ventilation Method MJ8

Heating Summary

Structure 28290 Btuh
Ducts (R-6.0) 7631 Btuh
Central vent (0 cfm) 0 Btuh

Humidification 0 Btuh
Piping 0 Btuh
Equipment load 35921 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft²)	2461	2461
Volume (ft³)	22151	22151
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	118	59

Heating Equipment Summary

Make Trane
Trade TRANE
Model 5TWR5048A1
AHRI ref

Efficiency 8.1 HSPF2
Heating input
Heating output 45500 Btuh @ 47°F
Temperature rise 28 °F
Actual air flow 1500 cfm
Air flow factor 0.042 cfm/Btuh
Static pressure 0.53 in H2O
Space thermostat
Capacity balance point = 24 °F

Backup:
Input = 9 kW, Output = 31491 Btuh, 100 AFUE

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

Sensible Cooling Equipment Load Sizing

Structure 23686 Btuh
Ducts (R-6.0) 10693 Btuh
Central vent (0 cfm) 0 Btuh

Blower 0 Btuh

Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 33484 Btuh

Latent Cooling Equipment Load Sizing

Structure 2538 Btuh
Ducts 2190 Btuh
Central vent (0 cfm) 0 Btuh

Equipment latent load 4729 Btuh

Equipment Total Load (Sen+Lat) 38213 Btuh
Req. total capacity at 0.80 SHR 3.5 ton

Cooling Equipment Summary

Make Trane
Trade TRANE
Cond 5TWR5048A1
Coil 5TEM4D07AC51

AHRI ref
Efficiency 12.0 EER2, 15.2 SEER2
Sensible cooling 36000 Btuh
Latent cooling 9000 Btuh
Total cooling 45000 Btuh
Actual air flow 1500 cfm
Air flow factor 0.044 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.



Right-Suite® Universal 2024 24.0.03 RSU11033

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Manual S Compliance Report Entire House

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	34378	Btuh	Entering coil DB:	78.2°F
Outdoor design WB:	75.8°F	Latent gain:	4729	Btuh	Entering coil WB:	64.0°F
Indoor design DB:	75.0°F	Total gain:	39107	Btuh		
Indoor RH:	50%	Estimated airflow:	1500	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
Manufacturer: Trane Model: 5TWR5048A1+5TEM4D07AC51
Actual airflow: 1500 cfm
Sensible capacity: 36000 Btuh 105% of load
Latent capacity: 9000 Btuh 190% of load
Total capacity: 45000 Btuh 115% of load SHR: 80%

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	35921	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: 5TWR5048A1+5TEM4D07AC51
Actual airflow: 1500 cfm
Output capacity: 45500 Btuh 127% of load
Supplemental heat required: 0 Btuh
Capacity balance: 24 °F
Economic balance: -99 °F

Backup equipment type: Elec strip
Manufacturer: Model:
Actual airflow: 1500 cfm
Output capacity: 9.2 kW 88% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.



Clint Wilson

FL. BUILDING CODE	RESIDENTIAL	2023
FL. ELECTRICAL	NAT. ELEC. CODE	2023
FL. PLUMBING	FL.	2023
MECHANICAL	FL.	2023
WIND LOAD DESIGN	ASCE 7-22 (ALL HEIGHTS)	
WIND LOAD DESIGN	FBC, TP1 2014	FBC 2023
ROOF LIVE LOAD	20 PSF	
FLOOR LIVE LOAD	40 PSF	

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LIVING	2458
GARAGE	635
LANAI	530
PORCH	202
TOTAL	3825

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Lawrence Parnell
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