

Project Information

For: ROBIN & KENNETH CLYATT
Columbia County, FL

Notes:

Design Information

Weather: Gainesville, 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 43 gr/lb

Heating Summary

Structure 22032 Btuh
Ducts 3197 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 25229 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft ²)	1694	1694
Volume (ft ³)	20718	20718
Air changes/hour	0.38	0.20
Equiv. AVF (cfm)	131	69

Heating Equipment Summary

Make Trane
Trade TRANE
Model 4TWR4030N1
AHRI ref 209480290

Efficiency 7.5 HSPF2
Heating input 26800 Btuh @ 47°F
Heating output 25 °F
Temperature rise 960 cfm
Actual air flow 0.038 cfm/Btuh
Air flow factor 0.53 in H2O
Static pressure
Space thermostat
Capacity balance point = 32 °F

Backup:
Input = 8 kW, Output = 25689 Btuh, 100 AFUE

Sensible Cooling Equipment Load Sizing

Structure 21193 Btuh
Ducts 4318 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 24848 Btuh

Latent Cooling Equipment Load Sizing

Structure 2432 Btuh
Ducts 882 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Equipment latent load 3314 Btuh
Equipment Total Load (Sen+Lat) 28163 Btuh
Req. total capacity at 0.80 SHR 2.6 ton

Cooling Equipment Summary

Make Trane
Trade TRANE
Cond 4TWR4030N1
Coil TEM4A0B31M31++TDR
AHRI ref 209480290

Efficiency 11.7 EER2,14.3 SEER2
Sensible cooling 23040 Btuh
Latent cooling 5760 Btuh
Total cooling 28800 Btuh
Actual air flow 960 cfm
Air flow factor 0.038 cfm/Btuh
Static pressure 0.53 in H2O
Load sensible heat ratio 0.89

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

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	25512	Btuh	Entering coil DB:	77.0°F
Outdoor design WB:	75.8°F	Latent gain:	3314	Btuh	Entering coil WB:	63.4°F
Indoor design DB:	75.0°F	Total gain:	28826	Btuh		
Indoor RH:	50%	Estimated airflow:	960	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR4030N1+TEM4A0B31M31++TDR
Actual airflow:	960	cfm	
Sensible capacity:	23040	Btuh	90% of load
Latent capacity:	5760	Btuh	174% of load
Total capacity:	28800	Btuh	100% of load SHR: 80%

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	25229	Btuh	Entering coil DB:	69.0°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR4030N1+TEM4A0B31M31++TDR
Actual airflow:	960	cfm	
Output capacity:	26800	Btuh	106% of load
Supplemental heat required:	0	Btuh	
			Capacity balance: 32 °F
			Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	960	cfm	
Output capacity:	7.5	kW	102% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.