

Project Information

For: Stovall Residence
182 Drew Feagle Ave, Fort White, FL 32038

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 24612 Btuh
Ducts 4320 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 28932 Btuh

Sensible Cooling Equipment Load Sizing

Structure 22679 Btuh
Ducts 6348 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 28214 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 2814 Btuh
Ducts 1366 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Equipment latent load 4181 Btuh

	Heating	Cooling
Area (ft ²)	1685	1685
Volume (ft ³)	15677	15677
Air changes/hour	0.50	0.26
Equiv. AVF (cfm)	131	68

Equipment Total Load (Sen+Lat) 32395 Btuh
Req. total capacity at 0.80 SHR 2.9 ton

Heating Equipment Summary

Make Trane
Trade TRANE
Model 4TWR4036G1
AHRI ref 201763659

Efficiency 8.2 HSPF
Heating input
Heating output 34400 Btuh @ 47°F
Temperature rise 27 °F
Actual air flow 1167 cfm
Air flow factor 0.040 cfm/Btuh
Static pressure 0.53 in H2O
Space thermostat
Capacity balance point = 29 °F

Backup:
Input = 8 kW, Output = 26955 Btuh, 100 AFUE

Cooling Equipment Summary

Make Trane
Trade TRANE
Cond 4TWR4036G1
Coil TEM4A0B36S31++TDR
AHRI ref 201763659

Efficiency 11.5 EER, 14 SEER
Sensible cooling 28000 Btuh
Latent cooling 7000 Btuh
Total cooling 35000 Btuh
Actual air flow 1167 cfm
Air flow factor 0.040 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.

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	29027	Btuh	Entering coil DB:	77.9°F
Outdoor design WB:	75.8°F	Latent gain:	4181	Btuh	Entering coil WB:	63.9°F
Indoor design DB:	75.0°F	Total gain:	33207	Btuh		
Indoor RH:	50%	Estimated airflow:	1167	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR4036G1+TEM4A0B36S31++TDR
Actual airflow:	1167	cfm	
Sensible capacity:	28000	Btuh	96% of load
Latent capacity:	7000	Btuh	167% of load
Total capacity:	35000	Btuh	105% of load SHR: 80%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	28932	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:	4TWR4036G1+TEM4A0B36S31++TDR
Actual airflow:	1167	cfm	
Output capacity:	34400	Btuh	119% of load
Supplemental heat required:	0	Btuh	
			Capacity balance: 29 °F
			Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1167	cfm	
Output capacity:	7.9	kW	93% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.