

### Project Information

For: PLUMB LEVEL/SNIDER  
Columbia County, FL 32056

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 21695 Btuh  
Ducts 3276 Btuh  
Central vent (0 cfm)  
(none) 0 Btuh  
Humidification 0 Btuh  
Piping 0 Btuh  
Equipment load 24972 Btuh

#### Sensible Cooling Equipment Load Sizing

Structure 25455 Btuh  
Ducts 3288 Btuh  
Central vent (0 cfm)  
(none) 0 Btuh  
Blower 0 Btuh  
Use manufacturer's data n  
Rate/swing multiplier 0.97  
Equipment sensible load 27996 Btuh

#### Infiltration

Method Simplified  
Construction quality Average  
Fireplaces 0

#### Latent Cooling Equipment Load Sizing

Structure 2483 Btuh  
Ducts 671 Btuh  
Central vent (0 cfm)  
(none) 0 Btuh  
Equipment latent load 3154 Btuh

	Heating	Cooling
Area (ft <sup>2</sup> )	2100	2100
Volume (ft <sup>3</sup> )	18900	18900
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	101	50

**Equipment Total Load (Sen+Lat)** 31150 Btuh  
Req. total capacity at 0.80 SHR 2.9 ton

#### Heating Equipment Summary

Make Trane  
Trade TRANE  
Model 4TWR4036N1  
AHRI ref 209842226

Efficiency 7.5 HSPF2  
Heating input  
Heating output 31800 Btuh @ 47°F  
Temperature rise 25 °F  
Actual air flow 1147 cfm  
Air flow factor 0.046 cfm/Btuh  
Static pressure 0.53 in H2O  
Space thermostat  
Capacity balance point = 27 °F

Backup:  
Input = 7 kW, Output = 24972 Btuh, 100 AFUE

#### Cooling Equipment Summary

Make Trane  
Trade TRANE  
Cond 4TWR4036N1  
Coil TEM4B0C37M31  
AHRI ref 209842226

Efficiency 11.7 EER2, 14.3 SEER2  
Sensible cooling 27520 Btuh  
Latent cooling 6880 Btuh  
Total cooling 34400 Btuh  
Actual air flow 1147 cfm  
Air flow factor 0.040 cfm/Btuh  
Static pressure 0.53 in H2O  
Load sensible heat ratio 0.90

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:	28744	Btuh	Entering coil DB:	75.5°F
Outdoor design WB:	75.8°F	Latent gain:	3154	Btuh	Entering coil WB:	62.8°F
Indoor design DB:	75.0°F	Total gain:	31898	Btuh		
Indoor RH:	50%	Estimated airflow:	1147	cfm		

### Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR4036N1+TEM4B0C37M31
Actual airflow:	1147	cfm	
Sensible capacity:	27520	Btuh	96% of load
Latent capacity:	6880	Btuh	218% of load
Total capacity:	34400	Btuh	108% of load SHR: 80%

## Heating Equipment

### Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	24972	Btuh	Entering coil DB:	69.7°F
Indoor design DB:	70.0°F					

### Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR4036N1+TEM4B0C37M31
Actual airflow:	1147	cfm	
Output capacity:	31800	Btuh	127% of load
Supplemental heat required:	0	Btuh	
			Capacity balance: 27 °F
			Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1147	cfm	
Output capacity:	7.3	kW	100% of load Temp. rise: 20 °F

Meets all requirements of ACCA Manual S.