

### Project Information

For: Baker River Residence  
Columbia County, FL

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 14085 Btuh  
Ducts 1285 Btuh  
Central vent (0 cfm)  
(none) 0 Btuh  
Humidification 0 Btuh  
Piping 0 Btuh  
Equipment load 15370 Btuh

#### Sensible Cooling Equipment Load Sizing

Structure 15836 Btuh  
Ducts 1537 Btuh  
Central vent (0 cfm)  
(none) 0 Btuh  
Blower 0 Btuh  
Use manufacturer's data n  
Rate/swing multiplier 0.97  
Equipment sensible load 16887 Btuh

#### Infiltration

Method Simplified  
Construction quality Average  
Fireplaces 0

#### Latent Cooling Equipment Load Sizing

Structure 1625 Btuh  
Ducts 151 Btuh  
Central vent (0 cfm)  
(none) 0 Btuh  
Equipment latent load 1776 Btuh

	Heating	Cooling
Area (ft <sup>2</sup> )	1150	1150
Volume (ft <sup>3</sup> )	12538	12538
Air changes/hour	0.45	0.23
Equiv. AVF (cfm)	94	48

**Equipment Total Load (Sen+Lat)** 18663 Btuh  
Req. total capacity at 0.80 SHR 1.8 ton

#### Heating Equipment Summary

Make Trane  
Trade TRANE  
Model 4TWR4018G1  
AHRI ref 206661450

Efficiency 8.5 HSPF  
Heating input  
Heating output 16200 Btuh @ 47°F  
Temperature rise 23 °F  
Actual air flow 657 cfm  
Air flow factor 0.043 cfm/Btuh  
Static pressure 0.53 in H2O  
Space thermostat  
Capacity balance point = 32 °F

Backup:  
Input = 6 kW, Output = 22070 Btuh, 100 AFUE

#### Cooling Equipment Summary

Make Trane  
Trade TRANE  
Cond 4TWR4018G1  
Coil TEM4A0B19M21++TDR  
AHRI ref 206661450

Efficiency 12.0 EER, 14.5 SEER  
Sensible cooling 15760 Btuh  
Latent cooling 3940 Btuh  
Total cooling 19700 Btuh  
Actual air flow 657 cfm  
Air flow factor 0.038 cfm/Btuh  
Static pressure 0.53 in H2O  
Load sensible heat ratio 0.91

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

## Project Information

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Columbia County, FL

## Cooling Equipment

### Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	17373	Btuh	Entering coil DB:	75.5°F
Outdoor design WB:	75.8°F	Latent gain:	1776	Btuh	Entering coil WB:	62.7°F
Indoor design DB:	75.0°F	Total gain:	19150	Btuh		
Indoor RH:	50%	Estimated airflow:	657	cfm		

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

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR4018G1+TEM4A0B19M21++TDR
Actual airflow:	657	cfm	
Sensible capacity:	15760	Btuh	91% of load
Latent capacity:	3940	Btuh	222% of load
Total capacity:	19700	Btuh	103% of load SHR: 80%

## Heating Equipment

### Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	15370	Btuh	Entering coil DB:	69.8°F
Indoor design DB:	70.0°F					

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

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR4018G1+TEM4A0B19M21++TDR
Actual airflow:	657	cfm	
Output capacity:	16200	Btuh	105% of load
Supplemental heat required:	0	Btuh	
			Capacity balance: 32 °F
			Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	657	cfm	
Output capacity:	6.5	kW	144% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.