

Project Information

For: Michael & Shannon Bishop
Lake City, FL 32024

Notes:

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 11513 Btuh
Ducts (R-6.0) 4332 Btuh
Central vent (0 cfm) 0 Btuh

Humidification 0 Btuh
Piping 0 Btuh
Equipment load 15845 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft²)	1100	1100
Volume (ft³)	9360	9360
Air changes/hour	0.34	0.17
Equiv. AVF (cfm)	53	26

Heating Equipment Summary

Make Trane
Trade TRANE
Model 5TWR7024A1
AHRI ref 216763464

Efficiency 9 HSPF2
Heating input 22400 Btuh @ 47°F
Heating output 26 °F
Temperature rise 787 cfm
Actual air flow 0.050 cfm/Btuh
Air flow factor 0.53 in H2O
Static pressure
Space thermostat
Capacity balance point = 23 °F

Backup:
Input = 4 kW, Output = 13776 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 13075 Btuh
Ducts (R-6.0) 5691 Btuh
Central vent (0 cfm) 0 Btuh

Blower 0 Btuh

Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 18278 Btuh

Latent Cooling Equipment Load Sizing

Structure 1580 Btuh
Ducts 1106 Btuh
Central vent (0 cfm) 0 Btuh

Equipment latent load 2686 Btuh

Equipment Total Load (Sen+Lat) 20964 Btuh
Req. total capacity at 0.70 SHR 2.2 ton

Cooling Equipment Summary

Make Trane
Trade TRANE
Cond 5TWR7024A1
Coil 5TEM6B02AV21
AHRI ref 216763464
Efficiency 12.0 EER2, 17.1 SEER2
Sensible cooling 16240 Btuh
Latent cooling 6960 Btuh
Total cooling 23200 Btuh
Actual air flow 787 cfm
Air flow factor 0.042 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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Outside db 33 °F
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Design TD 37 °F

Ventilation Method MJ8

Heating Summary

Structure 13964 Btuh
Ducts (R-6.0) 4848 Btuh
Central vent (0 cfm) 0 Btuh

Humidification 0 Btuh
Piping 0 Btuh
Equipment load 18812 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft²)	1400	1400
Volume (ft³)	12240	12240
Air changes/hour	0.30	0.15
Equiv. AVF (cfm)	62	31

Heating Equipment Summary

Make Trane
Trade TRANE
Model 5TWR7024A1
AHRI ref 216763464

Efficiency 9 HSPF2
Heating input 22400 Btuh @ 47°F
Heating output 26 °F
Temperature rise 787 cfm
Actual air flow 0.042 cfm/Btuh
Air flow factor 0.53 in H2O
Static pressure
Space thermostat
Capacity balance point = 28 °F
Backup:
Input = 5 kW, Output = 17021 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 12396 Btuh
Ducts (R-6.0) 6368 Btuh
Central vent (0 cfm) 0 Btuh

Blower 0 Btuh

Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 18276 Btuh

Latent Cooling Equipment Load Sizing

Structure 1315 Btuh
Ducts 1244 Btuh
Central vent (0 cfm) 0 Btuh

Equipment latent load 2560 Btuh

Equipment Total Load (Sen+Lat) 20836 Btuh
Req. total capacity at 0.80 SHR 1.9 ton

Cooling Equipment Summary

Make Trane
Trade TRANE
Cond 5TWR7024A1
Coil 5TEM6B02AV21
AHRI ref 216763464
Efficiency 12.0 EER2, 17.1 SEER2
Sensible cooling 18560 Btuh
Latent cooling 4640 Btuh
Total cooling 23200 Btuh
Actual air flow 787 cfm
Air flow factor 0.042 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.



Manual S Compliance Report

M Suite Unit

Job: J-12205 - C-1309
Date: Sep 23, 2025
By: David Marrs

Project Information

For: Michael & Shannon Bishop
Lake City, FL 32024

Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	18766	Btuh	Entering coil DB:	77.6°F
Outdoor design WB:	75.8°F	Latent gain:	2686	Btuh	Entering coil WB:	63.7°F
Indoor design DB:	75.0°F	Total gain:	21452	Btuh		
Indoor RH:	50%	Estimated airflow:	787	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	5TWR7024A1+5TEM6B02AV21
Actual airflow:	787	cfm	
Sensible capacity:	16240	Btuh	87% of load
Latent capacity:	6960	Btuh	259% of load
Total capacity:	23200	Btuh	108% of load SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	15845	Btuh	Entering coil DB:	68.7°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	5TWR7024A1+5TEM6B02AV21
Actual airflow:	787	cfm	
Output capacity:	22400	Btuh	141% of load
Supplemental heat required:	0	Btuh	
Capacity balance:	23	°F	
Economic balance:	-99	°F	

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	787	cfm	
Output capacity:	4.0	kW	87% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.



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Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	18764	Btuh	Entering coil DB:	77.9°F
Outdoor design WB:	75.8°F	Latent gain:	2560	Btuh	Entering coil WB:	63.9°F
Indoor design DB:	75.0°F	Total gain:	21324	Btuh		
Indoor RH:	50%	Estimated airflow:	787	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Trane	Model:	5TWR7024A1+5TEM6B02AV21		
Actual airflow:	787	cfm			
Sensible capacity:	18560	Btuh	99%	of load	
Latent capacity:	4640	Btuh	181%	of load	
Total capacity:	23200	Btuh	109%	of load	SHR: 80%

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	18812	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:	5TWR7024A1+5TEM6B02AV21		
Actual airflow:	787	cfm			
Output capacity:	22400	Btuh	119%	of load	Capacity balance: 28 °F
Supplemental heat required:	0	Btuh			Economic balance: -99 °F

Backup equipment type:	Elec strip				
Manufacturer:		Model:			
Actual airflow:	787	cfm			
Output capacity:	5.0	kW	90%	of load	Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.