wrightsoft

Project Summary
Building

Job: J-11348 - C-1309
Date: Nov 19, 2024
By: LaNiika Stewart

Project Information

For: Trafco
466 SW Winswept GLN, 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	

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	11982	Btuh
Ducts (R-6.0)	2183	Btuh
Central vent (0 cfm)	0	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	14166	Btuh

Sensible Cooling Equipment Load Sizing

Structure	12645	Btuh
Ducts (R-6.0)	3078	Btuh
Central vent (0 cfm)	0	Btuh
Blower	0	Btuh
Use manufacturer's data	y	
Rate/swing multiplier	1.00	
Equipment sensible load	15724	Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	605	605
Volume (ft³)	4830	4830
Air changes/hour	0.61	0.32
Equiv. AVF (cfm)	49	26

Latent Cooling Equipment Load Sizing

Structure	758	Btuh
Ducts	630	Btuh
Central vent (0 cfm)	0	Btuh
Equipment latent load	1388	Btuh
Equipment Total Load (Sen+Lat)	17112	Btuh
Req. total capacity at 0.80 SHR	1.6	ton

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	4TWR4018N1000A
AHRI ref	209842209

Efficiency	7.5 HSPF2	
Heating input		
Heating output	19300	Btuh @ 47°F
Temperature rise	27	°F
Actual air flow	643	cfm
Air flow factor	0.045	cfm/Btuh
Static pressure	0.53	in H2O
Space thermostat		

Capacity balance point = 22 °F

Backup:
Input = 4 kW, Output = 13611 Btuh, 100 AFUE

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	4TWR4018N1000A
Coil	TEM4B0B24M21SA
AHRI ref	209842209

Efficiency	11.7 EER2,14.3 SEER2	
Sensible cooling	15440	Btuh
Latent cooling	3860	Btuh
Total cooling	19300	Btuh
Actual air flow	643	cfm
Air flow factor	0.041	cfm/Btuh
Static pressure	0.53	in H2O
Load sensible heat ratio	0.92	

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

Manual S Compliance Report
Building

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	15724	Btuh	Entering coil DB:	77.2°F
Outdoor design WB:	75.8°F	Latent gain:	1388	Btuh	Entering coil WB:	63.6°F
Indoor design DB:	75.0°F	Total gain:	17112	Btuh		
Indoor RH:	50%	Estimated airflow:	643	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Trane		Model:	4TWR4018N1000A+TEM4B0B24M21SA	
Actual airflow:	643	cfm			
Sensible capacity:	15291	Btuh	97% of load		
Latent capacity:	3204	Btuh	231% of load		
Total capacity:	18495	Btuh	108% of load	SHR:	83%

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	14166	Btuh	Entering coil DB:	68.9°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP						
Manufacturer:	Trane		Model:	4TWR4018N1000A+TEM4B0B24M21SA			
Actual airflow:	643	cfm					
Output capacity:	15533	Btuh	110% of load		Capacity balance:	22	°F
Supplemental heat required:	0	Btuh			Economic balance:	-99	°F

Backup equipment type:	Elec strip					
Manufacturer:		Model:				
Actual airflow:	643	cfm				
Output capacity:	4.0	kW	96% of load	Temp. rise:	50	°F

Meets all requirements of ACCA Manual S.