

Project Information

For: Lot 4 Emerald Cove
303 Heathridge Dr, Lake City, FL

Cooling Equipment

Design Conditions

Outdoor design DB: 91.9°F	Sensible gain: 22304 Btuh	Entering coil DB: 77.8°F
Outdoor design WB: 76.2°F	Latent gain: 3391 Btuh	Entering coil WB: 63.9°F
Indoor design DB: 75.0°F	Total gain: 25694 Btuh	
Indoor RH: 50%	Estimated airflow: 933 cfm	

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP	Model: GSZ140301K+ARUF31B14A
Manufacturer: Goodman Mfg.	
Actual airflow: 933 cfm	
Sensible capacity: 24600 Btuh	110% of load
Latent capacity: 3812 Btuh	112% of load
Total capacity: 28412 Btuh	111% of load SHR: 87%



Heating Equipment

Design Conditions

Outdoor design DB: 33.4°F	Heat loss: 30954 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	Model: GSZ140301K+ARUF31B14A	
Manufacturer: Goodman Mfg.		
Actual airflow: 933 cfm		
Output capacity: 27800 Btuh	90% of load	Capacity balance: 37 °F
Supplemental heat required: 3154 Btuh		Economic balance: -99 °F

Backup equipment type: Elec strip	Model:
Manufacturer:	
Actual airflow: 933 cfm	
Output capacity: 9.9 kW	109% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.

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Notes:

Design Information

Weather: Gainesville Rgnl, 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 47 gr/lb

Heating Summary

Structure 27779 Btuh
 Ducts 3175 Btuh
 Central vent (0 cfm) 0 Btuh
 (none)
 Humidification 0 Btuh
 Piping 0 Btuh
 Equipment load 30954 Btuh

Sensible Cooling Equipment Load Sizing

Structure 17504 Btuh
 Ducts 4800 Btuh
 Central vent (0 cfm) 0 Btuh
 (none)
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.97
 Equipment sensible load 21612 Btuh

Infiltration

Method Simplified
 Construction quality Average
 Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 2300 Btuh
 Ducts 1090 Btuh
 Central vent (0 cfm) 0 Btuh
 (none)
 Equipment latent load 3391 Btuh

	Heating	Cooling
Area (ft ²)	1577	1577
Volume (ft ³)	14193	14193
Air changes/hour	0.38	0.20
Equiv. AVF (cfm)	90	47

Equipment Total Load (Sen+Lat) 25003 Btuh
 Req. total capacity at 0.80 SHR 2.3 ton

Heating Equipment Summary

Make Goodman Mfg.
 Trade GOODMAN
 Model GSZ140301K
 AHRI ref 201642081
 Efficiency 8.2 HSPF
 Heating input
 Heating output 27800 Btuh @ 47°F
 Temperature rise 27 °F
 Actual air flow 933 cfm
 Air flow factor 0.030 cfm/Btuh
 Static pressure 0.53 in H2O
 Space thermostat
 Capacity balance point = 37 °F

Cooling Equipment Summary

Make Goodman Mfg.
 Trade GOODMAN
 Cond GSZ140301K
 Coil ARUF31B14A
 AHRI ref 201642081
 Efficiency 12.0 EER, 14 SEER
 Sensible cooling 22400 Btuh
 Latent cooling 5600 Btuh
 Total cooling 28000 Btuh
 Actual air flow 933 cfm
 Air flow factor 0.042 cfm/Btuh
 Static pressure 0.53 in H2O
 Load sensible heat ratio 0.87

Backup:
 Input = 10 kW, Output = 33771 Btuh, 100 AFUE

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