



Manual S Compliance Report

Entire House

E-Calcs Plus, Inc.

Job: Saunders - 122 SW Alba...
Date: Dec 16, 2020
By: E-Calcs Plus, Inc.

9250 Corkscrew Rd, Suite 8, Estero, FL 33928 Phone: 239.810.6106 Email: eric@ecalcsplus.com Web: www.ecalcsplus.com License: HERS Rater ID 0757810

Project Information

For: Saunders - 122 SW Albany Ter, CW Gilbert Construction
122 SW Albany Ter, Fort White, FL 32038

Cooling Equipment

Design Conditions

Outdoor design DB:	91.9°F	Sensible gain:	12877	Btuh	Entering coil DB:	76.5°F
Outdoor design WB:	76.2°F	Latent gain:	2354	Btuh	Entering coil WB:	63.4°F
Indoor design DB:	75.0°F	Total gain:	15231	Btuh		
Indoor RH:	50%	Estimated airflow:	593	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Carrier	Model:	CH14NB01800G0A0+FB4CNP018L	
Actual airflow:	593	cfm		
Sensible capacity:	13988	Btuh	109% of load	
Latent capacity:	2975	Btuh	126% of load	
Total capacity:	16964	Btuh	111% of load	SHR: 82%

Heating Equipment

Design Conditions

Outdoor design DB:	33.0°F	Heat loss:	17960	Btuh	Entering coil DB:	68.8°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Carrier	Model:	CH14NB01800G0A0+FB4CNP018L	
Actual airflow:	593	cfm		
Output capacity:	14016	Btuh	78% of load	Capacity balance: 35 °F
Supplemental heat required:	3944	Btuh		Economic balance: -33 °F

Backup equipment type:	Elec strip			
Manufacturer:	Carrier	Model:	AFUE 100	
Actual airflow:	593	cfm		
Output capacity:	5.0	kW	95% 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	14704 Btuh
Ducts	3256 Btuh
Central vent (0 cfm) (none)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	17960 Btuh

Sensible Cooling Equipment Load Sizing

Structure	9871 Btuh
Ducts	3006 Btuh
Central vent (0 cfm) (none)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	y
Rate/swing multiplier	1.00
Equipment sensible load	12877 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	1487 Btuh
Ducts	867 Btuh
Central vent (0 cfm) (none)	0 Btuh
Equipment latent load	2354 Btuh

	Heating	Cooling
Area (ft ²)	912	912
Volume (ft ³)	7296	7296
Air changes/hour	0.45	0.23
Equiv. AVF (cfm)	55	28

Equipment Total Load (Sen+Lat)	15231 Btuh
Req. total capacity at 0.70 SHR	1.5 ton

Heating Equipment Summary

Make	Carrier
Trade	CARRIER
Model	CH14NB01800G0A0
AHRI ref	9162108
Efficiency	8.2 HSPF
Heating input	
Heating output	17600 Btuh @ 47°F
Temperature rise	27 °F
Actual air flow	593 cfm
Air flow factor	0.033 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 35 °F	
Backup: Carrier AFUE 100	
Input = 5 kW, Output = 17061 Btuh, 100 AFUE	

Cooling Equipment Summary

Make	Carrier
Trade	CARRIER
Cond	CH14NB01800G0A0
Coil	FB4CNP018L
AHRI ref	9162108
Efficiency	11.5 EER, 14 SEER
Sensible cooling	12460 Btuh
Latent cooling	5340 Btuh
Total cooling	17800 Btuh
Actual air flow	593 cfm
Air flow factor	0.046 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.85

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



Load Short Form Entire House E-Calcs Plus, Inc.

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Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	33	92	Method	Simplified
Inside db (°F)	70	75	Construction quality	Average
Design TD (°F)	37	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	33	47		

HEATING EQUIPMENT

Make Carrier
Trade CARRIER
Model CH14NB01800G0A0
AHRI ref 9162108

Efficiency 8.2 HSPF
Heating input
Heating output 17600 Btuh @ 47°F
Temperature rise 27 °F
Actual air flow 593 cfm
Air flow factor 0.033 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 35 °F

Backup: Carrier AFUE 100

Input = 5 kW, Output = 17061 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Carrier
Trade CARRIER
Cond CH14NB01800G0A0
Coil FB4CNP018L
AHRI ref 9162108

Efficiency 11.5 EER, 14 SEER
Sensible cooling 12460 Btuh
Latent cooling 5340 Btuh
Total cooling 17800 Btuh
Actual air flow 593 cfm
Air flow factor 0.046 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.85

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
M BR	184	3697	2836	122	131
BR2	132	3368	2032	111	94
BA2	84	882	380	29	17
Laundry	72	2612	1625	86	75
M WIC	24	542	183	18	8
M BA	72	2387	743	79	34
KiLivDin	344	4471	5080	148	234

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



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Entire House	d	912	17960	12877	593	593
Other equip loads			0	0		
Equip. @ 1.00 RSM				12877		
Latent cooling				2354		
TOTALS		912	17960	15231	593	593

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Building Analysis Entire House E-Calcs Plus, Inc.

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Design Conditions

Location:

Gainesville Rgnl, FL, US
Elevation: 164 ft
Latitude: 30°N

Outdoor:

Dry bulb (°F)
Daily range (°F)
Wet bulb (°F)
Wind speed (mph)

Heating

33
-
-
15.0

Cooling

92
18 (M)
76
7.5

Indoor:

Indoor temperature (°F)
Design TD (°F)
Relative humidity (%)
Moisture difference (gr/lb)

Heating

70
37
50
32.8

Cooling

75
17
50
46.9

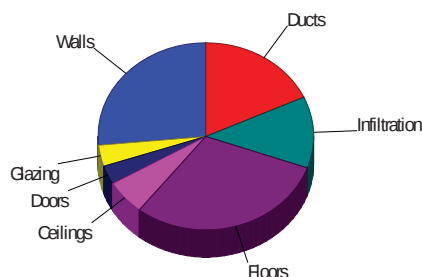
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
0

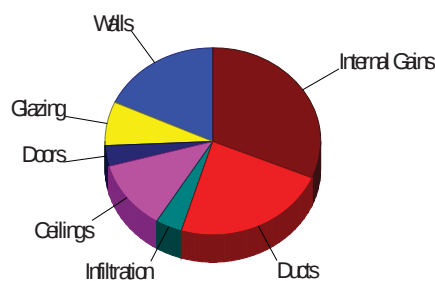
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	5.3	4760	26.5
Glazing	12.6	657	3.7
Doors	14.4	580	3.2
Ceilings	1.2	1080	6.0
Floors	5.9	5414	30.1
Infiltration	2.2	2214	12.3
Ducts		3256	18.1
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		17960	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.6	2335	18.1
Glazing	18.7	976	7.6
Doors	11.4	460	3.6
Ceilings	1.7	1542	12.0
Floors	0	0	0
Infiltration	0.5	517	4.0
Ducts		3006	23.3
Ventilation		0	0
Internal gains		4040	31.4
Blower		0	0
Adjustments		0	0
Total		12877	100.0



Latent Cooling Load = 2354 Btuh
Overall U-value = 0.120 Btuh/ft²-°F

Data entries checked.



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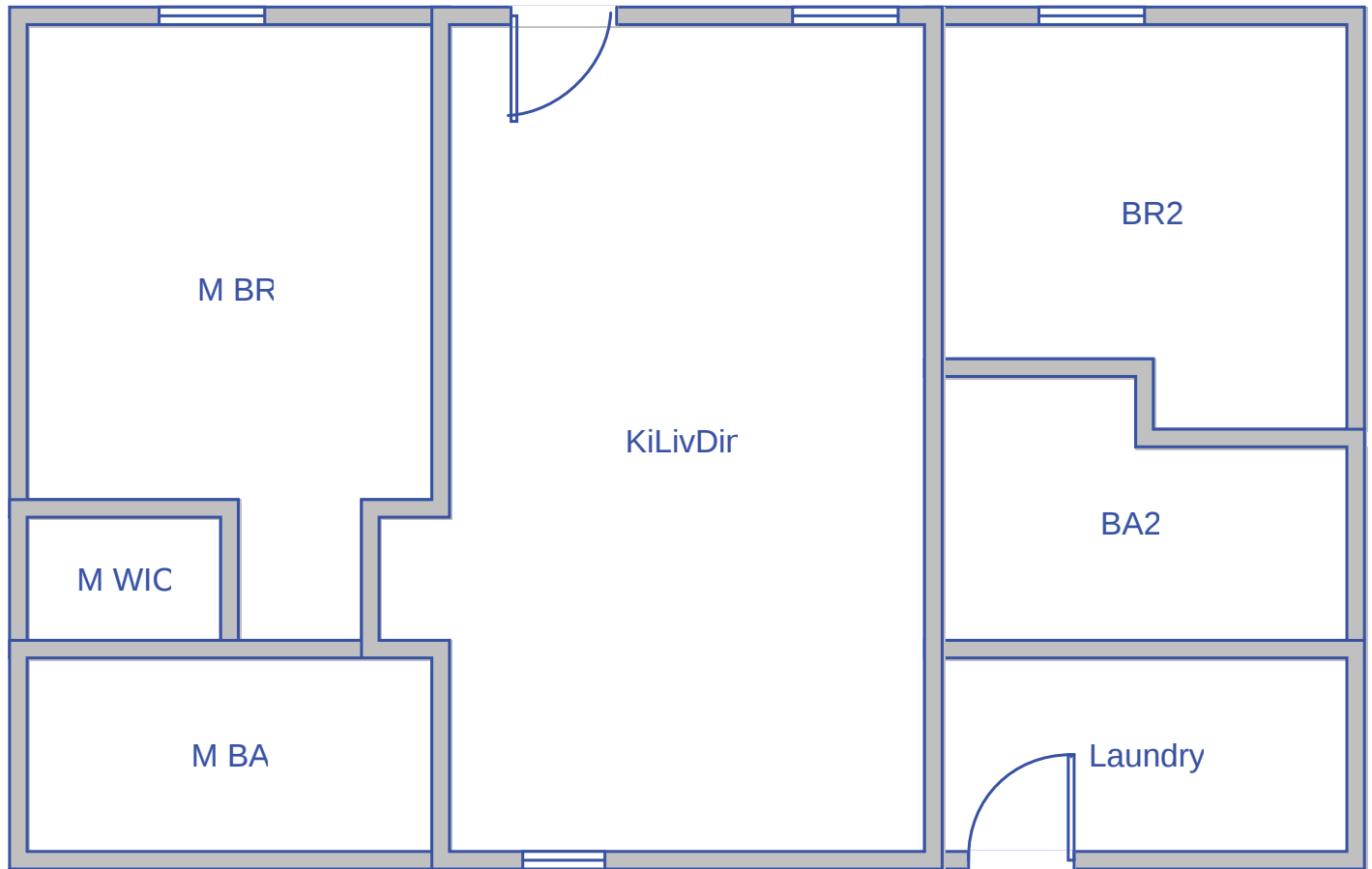
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First Floor



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Performed by E-Calcs Plus, Inc. for:

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Fort White, FL 32038

E-Calcs Plus, Inc.

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