



Load Short Form

Entire House

FRC Energy

Job: 2675 SW Tustenuggee A...
 Date: Nov 04, 2022
 By: FRC Energy

Web: www.frcenergy.com

Project Information

For: 2675 SW Tustenuggee Ave
 Lake City, FL 32025

Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	33	92	Method	Simplified
Inside db (°F)	70	75	Construction quality	Semi-tight
Design TD (°F)	37	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	10	47		

HEATING EQUIPMENT

Make Carrier
 Trade CARRIER
 Model 25HBC536A00300
 AHRI ref 10325028

Efficiency 8.2 HSPF
 Heating input
 Heating output 34800 Btuh @ 47°F
 Temperature rise 30 °F
 Actual air flow 1050 cfm
 Air flow factor 0.048 cfm/Btuh
 Static pressure 0.50 in H2O
 Space thermostat
 Capacity balance point = 22 °F

Backup: Carrier CNPVP4821ALA
 Input = 7 kW, Output = 22562 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Carrier
 Trade CARRIER
 Model 25HBC536A00300
 Coil CNPVP4821ALA+59SP5A100E21--20
 AHRI ref 10325028

Efficiency 12.0 EER, 14 SEER
 Sensible cooling 24500 Btuh
 Latent cooling 10500 Btuh
 Total cooling 35000 Btuh
 Actual air flow 1050 cfm
 Air flow factor 0.041 cfm/Btuh
 Static pressure 0.50 in H2O
 Load sensible heat ratio 0.89

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
W/H	8	0	0	0	0
A/H	4	0	0	0	0
M BR	285	4365	4992	210	204
WIC	54	213	160	10	7
M BA	99	2067	1369	99	56
Kit	204	3124	3386	150	138
utility	42	763	1106	37	45
BR3	196	3248	4304	156	175
BR2	154	2881	3500	138	143
CL2	16	0	0	0	0
BA	70	861	560	41	23
Hall	44	0	0	0	0
CL1	20	0	0	0	0
Great Rm	340	4346	6377	209	260

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



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Entire House	1536	21868	25755	1050	1050
Other equip loads		0	0		
Equip. @ 0.97 RSM			24957		
Latent cooling			3254		
TOTALS	1536	21868	28210	1050	1050

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Project Information

For: 2675 SW Tustenuggee Ave
 Lake City, FL 32025

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
 30
 10.3

Cooling

75
 17
 50
 46.9

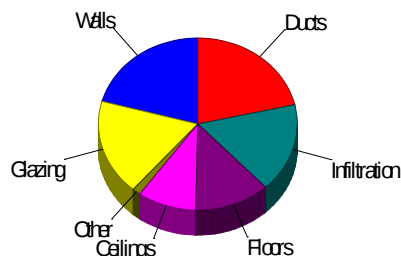
Infiltration:

Method
 Construction quality
 Fireplaces

Simplified
 Semi-tight
 0

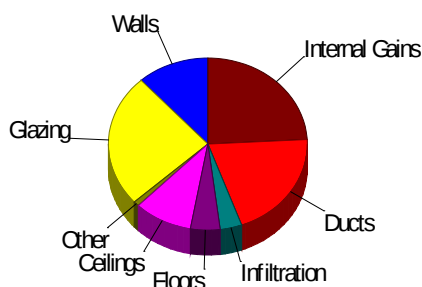
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.3	4531	20.7
Glazing	17.2	3932	18.0
Doors	14.3	300	1.4
Ceilings	1.2	2095	9.6
Floors	1.7	2675	12.2
Infiltration	2.3	3658	16.7
Ducts		4678	21.4
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		21868	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.2	3014	11.7
Glazing	28.2	6444	25.0
Doors	11.4	240	0.9
Ceilings	1.4	2452	9.5
Floors	0.8	1235	4.8
Infiltration	0.6	909	3.5
Ducts		5239	20.3
Ventilation		0	0
Internal gains		6220	24.2
Blower		0	0
Adjustments		0	0
Total		25755	100.0



Latent Cooling Load = 3254 Btuh
 Overall U-value = 0.080 Btuh/ft²-°F

Data entries checked.

Project Information

For: 2675 SW Tustenuggee Ave
Lake City, FL 32025

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	17190 Btuh
Ducts	4678 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	21868 Btuh

Sensible Cooling Equipment Load Sizing

Structure	20516 Btuh
Ducts	5239 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	24957 Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	2361 Btuh
Ducts	893 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Equipment latent load	3254 Btuh

	Heating	Cooling
Area (ft²)	1536	1536
Volume (ft³)	21091	21091
Air changes/hour	0.26	0.14
Equiv. AVF (cfm)	91	49

Equipment Total Load (Sen+Lat)	28210 Btuh
Req. total capacity at 0.70 SHR	3.0 ton

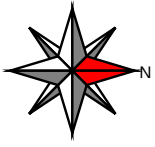
Heating Equipment Summary

Make	Carrier
Trade	CARRIER
Model	25HBC536A00300
AHRI ref	10325028
Efficiency	8.2 HSPF
Heating input	
Heating output	34800 Btuh @ 47°F
Temperature rise	30 °F
Actual air flow	1050 cfm
Air flow factor	0.048 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 22 °F	
Backup: Carrier CNPVP4821ALA	
Input = 7 kW, Output = 22562 Btuh, 100 AFUE	

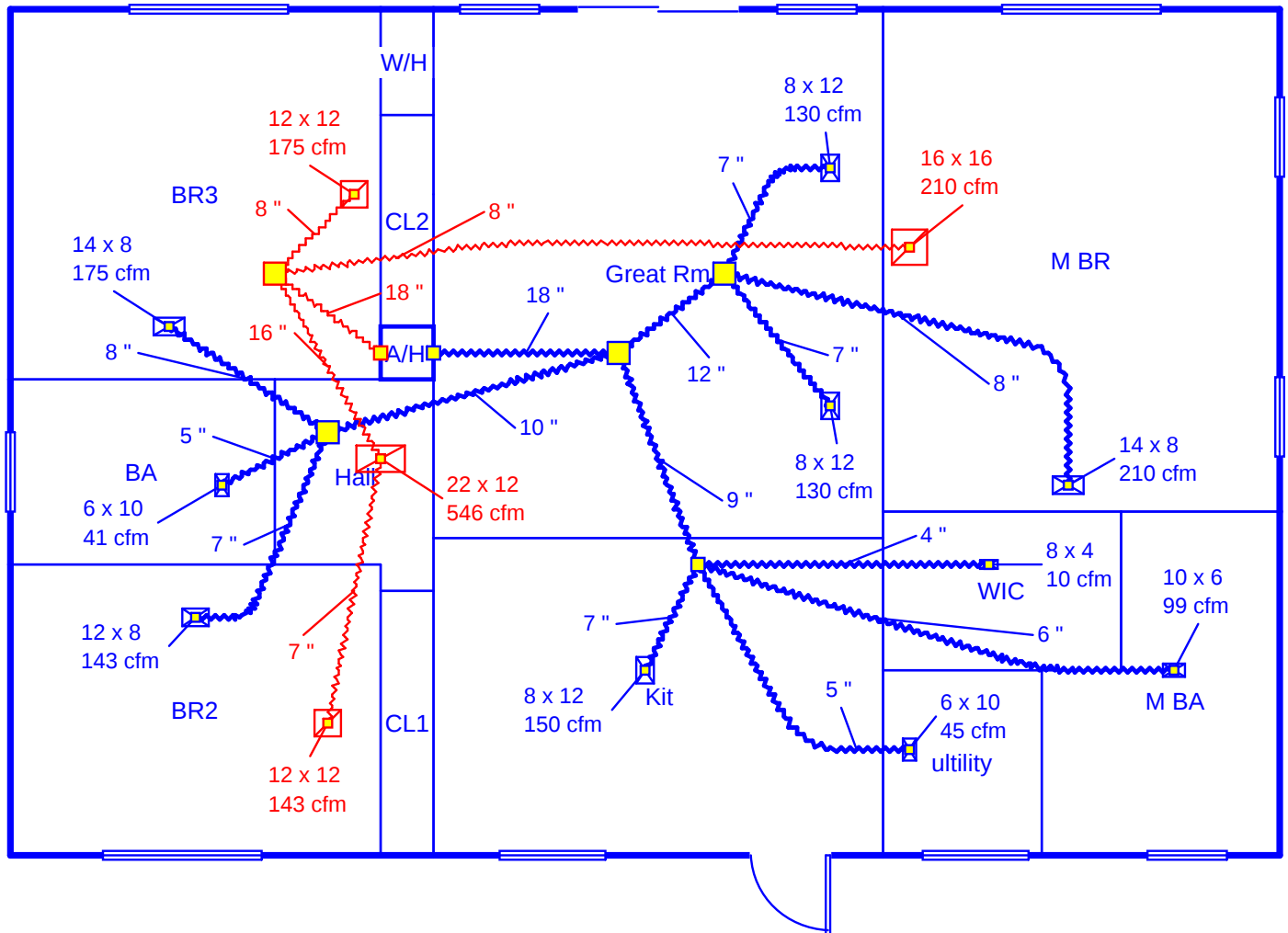
Cooling Equipment Summary

Make	Carrier
Trade	CARRIER
Cond	25HBC536A00300
Coil	CNPVP4821ALA+59SP5A100E21--20
AHRI ref	10325028
Efficiency	12.0 EER, 14 SEER
Sensible cooling	24500 Btuh
Latent cooling	10500 Btuh
Total cooling	35000 Btuh
Actual air flow	1050 cfm
Air flow factor	0.041 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.89

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



Main





Manual S Compliance Report

Entire House

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Project Information

For: 2675 SW Tustenuggee Ave
Lake City, FL 32025

Cooling Equipment

Design Conditions

Outdoor design DB:	91.9°F	Sensible gain:	25755 Btuh	Entering coil DB:	75.6°F
Outdoor design WB:	76.2°F	Latent gain:	3254 Btuh	Entering coil WB:	62.8°F
Indoor design DB:	75.0°F	Total gain:	29009 Btuh		
Indoor RH:	50%	Estimated airflow:	1050 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Carrier	Model:	25HBC536A00300+CNPVP4821ALA+59SP5A100E21--20
Actual airflow:	1050 cfm		
Sensible capacity:	27666 Btuh	107% of load	
Latent capacity:	4842 Btuh	149% of load	
Total capacity:	32508 Btuh	112% of load	SHR: 85%

Heating Equipment

Design Conditions

Outdoor design DB:	33.4°F	Heat loss:	21868 Btuh	Entering coil DB:	69.7°F
Indoor design DB:	70.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Carrier	Model:	25HBC536A00300+CNPVP4821ALA+59SP5A100E21--20
Actual airflow:	1050 cfm		
Output capacity:	27620 Btuh	126% of load	Capacity balance: 22 °F
Supplemental heat required:	0 Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:	Carrier	Model:	CNPVP4821ALA
Actual airflow:	1050 cfm		
Output capacity:	6.6 kW	103% of load	Temp. rise: 18 °F

Meets all requirements of ACCA Manual S.



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