

Project Information

For: Reinard Wilson
2925 SW, SR 47, 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 39115 Btuh
Ducts 8079 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 47195 Btuh

Sensible Cooling Equipment Load Sizing

Structure 35368 Btuh
Ducts 11909 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 45811 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft²)	2867	2867
Volume (ft³)	28670	28670
Air changes/hour	0.23	0.12
Equiv. AVF (cfm)	108	58

Latent Cooling Equipment Load Sizing

Structure 2636 Btuh
Ducts 2605 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Equipment latent load 5241 Btuh

Equipment Total Load (Sen+Lat) 51052 Btuh
Req. total capacity at 0.80 SHR 4.8 ton

Heating Equipment Summary

Make Carrier
Trade CARRIER
Model 25HBC560A00300
AHRI ref 9155729
Efficiency 8.5 HSPF
Heating input
Heating output 56000 Btuh @ 47°F
Temperature rise 27 °F
Actual air flow 1900 cfm
Air flow factor 0.040 cfm/Btuh
Static pressure 0.53 in H2O
Space thermostat
Capacity balance point = 30 °F

Cooling Equipment Summary

Make Carrier
Trade CARRIER
Cond 25HBC560A00300
Coil FX4DNF061L
AHRI ref 9155729
Efficiency 12.0 EER, 15 SEER
Sensible cooling 45600 Btuh
Latent cooling 11400 Btuh
Total cooling 57000 Btuh
Actual air flow 1900 cfm
Air flow factor 0.040 cfm/Btuh
Static pressure 0.53 in H2O
Load sensible heat ratio 0.90

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

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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 19930 Btuh
Ducts 4358 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 24289 Btuh

Sensible Cooling Equipment Load Sizing

Structure 12872 Btuh
Ducts 5681 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 17978 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 1697 Btuh
Ducts 1181 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Equipment latent load 2878 Btuh

	Heating	Cooling
Area (ft ²)	1085	1085
Volume (ft ³)	10850	10850
Air changes/hour	0.42	0.23
Equiv. AVF (cfm)	76	41

Equipment Total Load (Sen+Lat) 20856 Btuh
Req. total capacity at 0.80 SHR 1.9 ton

Heating Equipment Summary

Make Carrier
Trade
Model 25HBC524A00300
AHRI ref 9154931
Efficiency 8.2 HSPF
Heating input
Heating output 24000 Btuh @ 47°F
Temperature rise 28 °F
Actual air flow 780 cfm
Air flow factor 0.032 cfm/Btuh
Static pressure 0.53 in H2O
Space thermostat
Capacity balance point = 35 °F

Cooling Equipment Summary

Make Carrier
Trade
Cond 25HBC524A00300
Coil FB4CNP024L
AHRI ref 9154931
Efficiency 11.0 EER, 14 SEER
Sensible cooling 18720 Btuh
Latent cooling 4680 Btuh
Total cooling 23400 Btuh
Actual air flow 780 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.

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	15	112	0.305	572	6.0	0 x 0	VinIFlx	
st4	Peak AVF	677	868	0.240	491	18.0	0 x 0	VinIFlx	
st5	Peak AVF	400	344	0.310	509	12.0	0 x 0	VinIFlx	
st7	Peak AVF	305	280	0.285	558	10.0	0 x 0	VinIFlx	
st6	Peak AVF	503	296	0.266	470	14.0	0 x 0	VinIFlx	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb6	0x0	984	1304	37.8	0.514	598	20.0	0x 0		VIFx	
rb1	0x0	198	181	44.5	0.436	567	8.0	0x 0		VIFx	
rb5	0x0	216	119	68.6	0.283	396	10.0	0x 0		VIFx	rt1
rb3	0x0	266	188	79.8	0.243	487	10.0	0x 0		VIFx	rt1
rb4	0x0	237	108	81.0	0.240	434	10.0	0x 0		VIFx	rt1

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1	Peak AVF	718	415	0.240	515	16.0	0 x 0	VinIFlx	

Project Information

For: Reinard Wilson
2925 SW, SR 47, Lake City,, FL 32025

Cooling Equipment

Design Conditions

Outdoor design DB:	91.9°F	Sensible gain:	47277	Btuh	Entering coil DB:	78.1°F
Outdoor design WB:	76.2°F	Latent gain:	5241	Btuh	Entering coil WB:	64.0°F
Indoor design DB:	75.0°F	Total gain:	52518	Btuh		
Indoor RH:	50%	Estimated airflow:	1900	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Carrier	Model:	25HBC560A00300+FX4DNF061L		
Actual airflow:	1900	cfm			
Sensible capacity:	48048	Btuh	102%	of load	
Latent capacity:	7782	Btuh	148%	of load	
Total capacity:	55830	Btuh	106%	of load	SHR: 86%

Heating Equipment

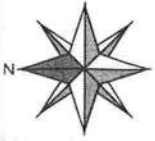
Design Conditions

Outdoor design DB:	33.4°F	Heat loss:	47195	Btuh	Entering coil DB:	68.5°F
Indoor design DB:	70.0°F					

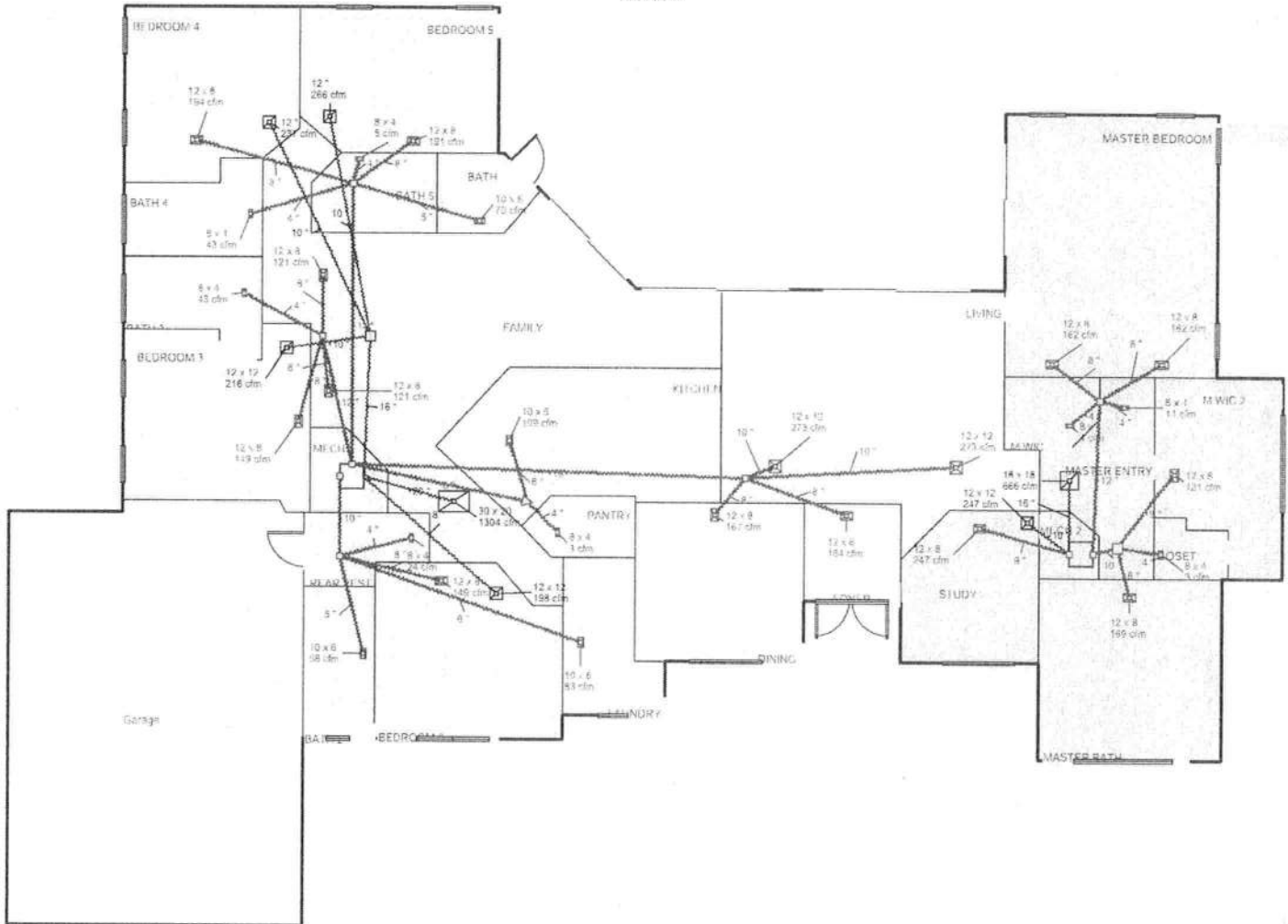
Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Carrier	Model:	25HBC560A00300+FX4DNF061L		
Actual airflow:	1900	cfm			
Output capacity:	46612	Btuh	99%	of load	Capacity balance: 30 °F
Supplemental heat required:	583	Btuh			Economic balance: -99 °F

Meets all requirements of ACCA Manual S.



1st Floor



Job #: Reinard Wilson - Owner - J-3296
Performed by MAK for:
Reinard Wilson
2925 SW, SR 47
Lake City, FL 32025

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