

Project Information

For: Zinnermon Residence
2205 SW Old Bellamy Rd, Fort White, FL 32038

Notes:



Design Information

Weather: Gainesville Regional, 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 44 gr/lb

Heating Summary

Structure 32007 Btuh
Ducts 524 Btuh
Central vent (0 cfm) 0 Btuh
(none)
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 32531 Btuh

Sensible Cooling Equipment Load Sizing

Structure 23774 Btuh
Ducts 551 Btuh
Central vent (0 cfm) 0 Btuh
(none)
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 23644 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 2836 Btuh
Ducts 176 Btuh
Central vent (0 cfm) 0 Btuh
(none)
Equipment latent load 3011 Btuh

	Heating	Cooling
Area (ft²)	2310	2310
Volume (ft³)	25747	25747
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	137	69

Equipment Total Load (Sen+Lat) 26655 Btuh
Req. total capacity at 0.80 SHR 2.5 ton

Heating Equipment Summary

Make Ecotemp
Trade ECOTEMP
Model WCH4304GKP**
AHRI ref 204862048
Efficiency 8.2 HSPF
Heating input 28600 Btuh @ 47°F
Heating output 27 °F
Temperature rise 953 cfm
Actual air flow 0.029 cfm/Btuh
Air flow factor 0.53 in H2O
Static pressure
Space thermostat
Capacity balance point = 37 °F
Backup:
Input = 12 kW, Output = 41645 Btuh, 100 AFUE

Cooling Equipment Summary

Make Ecotemp
Trade ECOTEMP
Cond WCH4304GKP**
Coil WAHL304B*
AHRI ref 204862048
Efficiency 11.5 EER, 14 SEER
Sensible cooling 22880 Btuh
Latent cooling 5720 Btuh
Total cooling 28600 Btuh
Actual air flow 953 cfm
Air flow factor 0.039 cfm/Btuh
Static pressure 0.53 in H2O
Load sensible heat ratio 0.89

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



Duct System Summary Entire House

Job: J-7335 - C-1766
Date: Nov 24, 2021
By: LaTisha Furmon

Project Information

For: Zinnermon Residence
2205 SW Old Bellamy Rd, Fort White, FL 32038

	Heating	Cooling
External static pressure	0.53 in H2O	0.53 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.53 in H2O	0.53 in H2O
Supply / return available pressure	0.322 / 0.208 in H2O	0.322 / 0.208 in H2O
Lowest friction rate	0.213 in/100ft	0.213 in/100ft
Actual air flow	953 cfm	953 cfm
Total effective length (TEL)	249 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
B Nook	c 2151	55	84	0.279	6.0	0x0	VIFx	25.6	90.0	st2
Bath	h 754	22	11	0.229	4.0	0x0	VIFx	46.1	95.0	st1
Bed 1	h 3100	91	82	0.221	6.0	0x0	VIFx	51.0	95.0	st1
Bed 2	c 2120	74	83	0.231	6.0	0x0	VIFx	44.7	95.0	st1
Bonus Rm	h 1441	42	34	0.308	4.0	0x0	VIFx	14.6	90.0	st4
Bonus Rm-A	h 1441	42	34	0.316	4.0	0x0	VIFx	12.1	90.0	st4
Bonus Rm-B	h 1441	42	34	0.282	4.0	0x0	VIFx	24.4	90.0	st4
Cist	h 2044	60	33	0.300	5.0	0x0	VIFx	17.5	90.0	st3
Dining	h 1940	57	34	0.275	5.0	0x0	VIFx	27.2	90.0	st2
Foyer	h 989	29	18	0.259	4.0	0x0	VIFx	34.3	90.0	st2
Kitchen	c 1821	50	71	0.275	5.0	0x0	VIFx	27.1	90.0	st2
Laundry	c 888	33	35	0.319	4.0	0x0	VIFx	11.0	90.0	st3
Living	c 2686	45	105	0.287	6.0	0x0	VIFx	22.2	90.0	st2
Living-A	c 2686	45	105	0.265	6.0	0x0	VIFx	31.7	90.0	st2
M Bath	h 1257	37	16	0.304	4.0	0x0	VIFx	15.9	90.0	st5
M Bed	c 2303	81	90	0.304	6.0	0x0	VIFx	16.0	90.0	st5
M Lav	c 0	0	0	0.308	0	0x0	VIFx	14.6	90.0	st5
M WIC	h 1918	56	40	0.277	5.0	0x0	VIFx	26.4	90.0	st5
Pantry	h 539	16	12	0.318	4.0	0x0	VIFx	11.4	90.0	st3
Pwd	c 154	4	6	0.319	4.0	0x0	VIFx	11.0	90.0	st5
WIC 1	h 1240	36	14	0.213	4.0	0x0	VIFx	56.7	95.0	st1
WIC 2	h 1240	36	14	0.221	4.0	0x0	VIFx	51.2	95.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st4	Peak AVF	127	101	0.282	474	7.0	0 x 0	VinIFlx	
st3	Peak AVF	109	80	0.300	553	6.0	0 x 0	VinIFlx	
st5	Peak AVF	178	152	0.277	511	8.0	0 x 0	VinIFlx	
st1	Peak AVF	259	203	0.213	587	9.0	0 x 0	VinIFlx	
st2	Peak AVF	281	417	0.259	531	12.0	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
rb5	0x0	127	101	40.5	0.512	474	7.0	0x 0		VIFx	
rb1	0x0	393	503	55.5	0.374	471	14.0	0x 0		VIFx	rt1
rb4	0x0	174	146	60.9	0.341	500	8.0	0x 0		VIFx	rt1
rb2	0x0	149	107	96.8	0.214	559	7.0	0x 0		VIFx	rt2
rb3	0x0	110	97	97.7	0.213	561	6.0	0x 0		VIFx	rt2

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	567	650	0.341	465	16.0	0 x 0	VinIFlx	
rt2	Peak AVF	259	203	0.213	587	9.0	0 x 0	VinIFlx	

Project Information

For: Zinnermon Residence
 2205 SW Old Bellamy Rd, Fort White, FL 32038

Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	24325	Btuh	Entering coil DB:	75.3°F
Outdoor design WB:	75.8°F	Latent gain:	3011	Btuh	Entering coil WB:	62.7°F
Indoor design DB:	75.0°F	Total gain:	27336	Btuh		
Indoor RH:	50%	Estimated airflow:	953	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
 Manufacturer: Ecotemp Model: WCH4304GKP**+WAHL304B*
 Actual airflow: 953 cfm
 Sensible capacity: 22880 Btuh 94% of load
 Latent capacity: 5720 Btuh 190% of load
 Total capacity: 28600 Btuh 105% of load SHR: 80%

Heating Equipment

Design Conditions

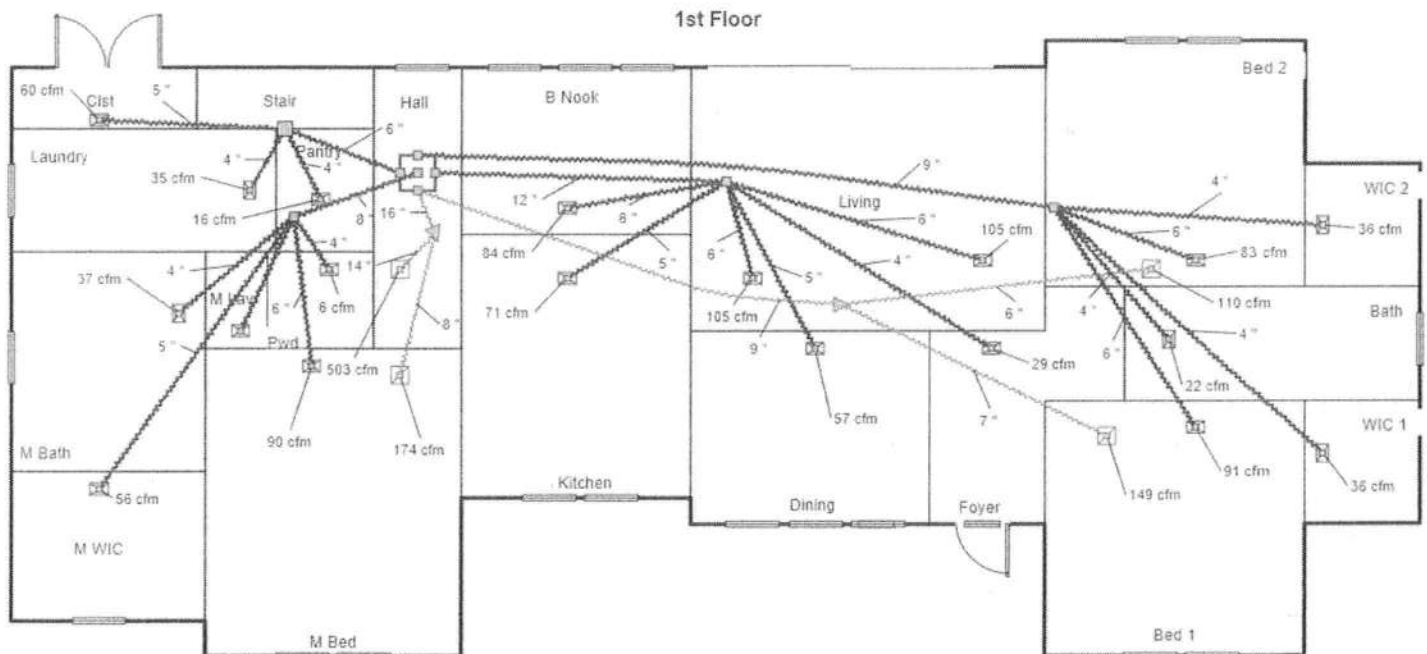
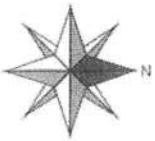
Outdoor design DB:	33.2°F	Heat loss:	32531	Btuh	Entering coil DB:	69.8°F
Indoor design DB:	70.0°F					

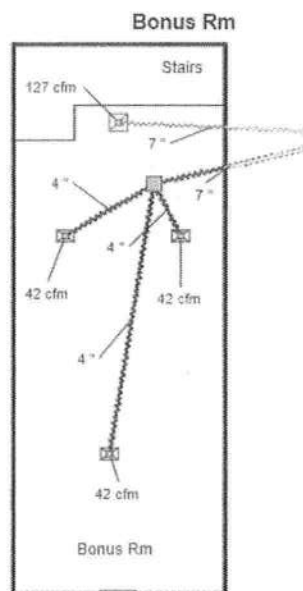
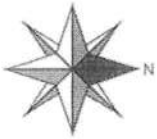
Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
 Manufacturer: Ecotemp Model: WCH4304GKP**+WAHL304B*
 Actual airflow: 953 cfm
 Output capacity: 28600 Btuh 88% of load
 Supplemental heat required: 3931 Btuh
 Capacity balance: 37 °F
 Economic balance: -99 °F

Backup equipment type: Elec strip
 Manufacturer: Model:
 Actual airflow: 953 cfm
 Output capacity: 12.2 kW 128% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.





Job #: J-7335 - C-1766
Performed by LaTisha Furmon for:
Zinnermon Residence
2205 SW Old Bellamy Rd
Fort White, FL 32038

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