



Manual S Compliance Report

Entire House

DL Williams Heating & Cooling L.L.C.

Job: 1
Date: Jan 14, 2022
By: DL Williams Heating & C...

PO Box 2156, Lake City, FL 32056 Phone: 386-754-1987 Email: williamscoolingllc@gmail.com

Project Information

For: Hutchins, Mike Todd Construction
Lake City, FL 32055

Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	13328	Btuh	Entering coil DB:	77.2°F
Outdoor design WB:	75.8°F	Latent gain:	2512	Btuh	Entering coil WB:	63.8°F
Indoor design DB:	75.0°F	Total gain:	15840	Btuh		
Indoor RH:	50%	Estimated airflow:	584	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Generic	Model:	SEER 15.0, HSPF 8.5
Actual airflow:	584 cfm		
Sensible capacity:	12254 Btuh	92% of load	
Latent capacity:	5252 Btuh	209% of load	
Total capacity:	17506 Btuh	11% of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	17960	Btuh	Entering coil DB:	66.0°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Generic	Model:	SEER 15.0, HSPF 8.5
Actual airflow:	584 cfm		
Output capacity:	17419 Btuh	97% of load	
Supplemental heat required:	542 Btuh		
Capacity balance:	33 °F		
Economic balance:	-99 °F		

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	584 cfm		
Output capacity:	5.0 kW	96% of load	Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.



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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	584	584	0.177	616	10.0	3-3.25x14	SdJstSp	

**TRANE**

Duct System Summary

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	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0.50 in H2O	0.50 in H2O
Supply / return available pressure	0.371 / 0.129 in H2O	0.371 / 0.129 in H2O
Lowest friction rate	0.177 in/100ft	0.177 in/100ft
Actual air flow	584 cfm	584 cfm
Total effective length (TEL)	282 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
bath	h 598	20	10	0.232	4.0	0x0	VIFx	10.0	150.0	st2
kitchen/dining	c 4203	138	190	0.287	5.0	0x0	VIFx	9.2	120.0	st1
living	c 3487	146	157	0.247	7.0	0x0	VIFx	9.8	140.0	st1
mbath	c 840	35	38	0.177	5.0	0x0	VIFx	14.0	195.0	st2
mbed	h 4529	154	113	0.186	7.0	0x0	VIFx	14.5	185.0	st2
mcloset	h 1555	53	26	0.197	4.0	0x0	VIFx	18.0	170.0	st2A
utility	c 1119	36	50	0.241	5.0	0x0	VIFx	4.0	150.0	st2

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	285	347	0.247	636	10.0	0 x 0	ShtMetl	st2
st2	Peak AVF	299	237	0.177	548	10.0	0 x 0	ShtMetl	
st2A	Peak AVF	53	26	0.197	605	4.0	0 x 0	ShtMetl	

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
rb2	0x0	263	199	73.0	0.177	483	10.0	0x 0		VIFx	rt1
rb1	0x0	320	385	73.0	0.177	490	12.0	0x 0		VIFx	rt1

Bold/Italic values have been manually overridden



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Entire House	960	17177	12941	584	584
Other equip loads		784	387		
Equip. @ 0.97 RSM			12955		
Latent cooling			2512		
TOTALS	960	17960	15467	584	584

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



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**TRANE****Load Short Form***Entire House***DL Williams Heating & Cooling L.L.C.**

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Design Information

	Htg	Clg	Infiltration	Simplified
Outside db (°F)	33	92	Method	Average
Inside db (°F)	68	75	Construction quality	0
Design TD (°F)	35	17	Fireplaces	
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	8	44		

HEATING EQUIPMENT

Make Generic
 Trade
 Model SEER 15.0, HSPF 8.5
 AHRI ref

Efficiency 8.5 HSPF
 Heating input
 Heating output 17419 Btuh @ 47°F
 Temperature rise 27 °F
 Actual air flow 584 cfm
 Air flow factor 0.034 cfm/Btuh
 Static pressure 0.50 in H2O
 Space thermostat
 Capacity balance point = 33 °F

Backup:

Input = 5 kW, Output = 17196 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Generic
 Trade
 Cond SEER 15.0, HSPF 8.5
 Coil

AHRI ref
 Efficiency 12.8 EER, 15 SEER
 Sensible cooling 12254 Btuh
 Latent cooling 5252 Btuh
 Total cooling 17506 Btuh
 Actual air flow 584 cfm
 Air flow factor 0.045 cfm/Btuh
 Static pressure 0.50 in H2O
 Load sensible heat ratio 0.84

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
living	264	4312	3487	146	157
kitchen/dining	228	4071	4203	138	190
utility	72	1073	1119	36	50
bath	36	598	225	20	10
mbath	45	1038	840	35	38
mbed	255	4529	2498	154	113
mcloset	60	1555	568	53	26

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