



Project Summary

Entire House

DL Williams Heating & Cooling L.L.C.

Job: FY006
Date: Feb 24, 2022
By: DL Williams Heating & C...
Plan: 2169A

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

Project Information

For: Lot 6 Forest Country model 2169A, Adams Homes
285 SW Pinehurst DR, Lake City, FL 32024

Notes:

Design Information

Weather: Gainesville Regional, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	68 °F
Design TD	35 °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	25435 Btuh
Ducts	7365 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	32800 Btuh

Sensible Cooling Equipment Load Sizing

Structure	17026 Btuh
Ducts	9191 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	25483 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	2347 Btuh
Ducts	1829 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Equipment latent load	4176 Btuh

	Heating	Cooling
Area (ft ²)	2171	2171
Volume (ft ³)	19565	19565
Air changes/hour	0.32	0.16
Equiv. AVF (cfm)	104	52

Equipment Total Load (Sen+Lat)	29659 Btuh
Req. total capacity at 0.70 SHR	3.0 ton

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	4TWR6036H1
AHRI ref	202455673
Efficiency	8.5 HSPF
Heating input	
Heating output	31000 Btuh @ 47°F
Temperature rise	24 °F
Actual air flow	1200 cfm
Air flow factor	0.037 cfm/Btuh
Static pressure	0.30 in H2O
Space thermostat	
Capacity balance point = 35 °F	
Backup:	
Input = 5 kW, Output = 17061 Btuh, 100 AFUE	

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	4TWR6036H1
Coil	tem6a0c36
AHRI ref	202455673
Efficiency	13.0 EER, 16 SEER
Sensible cooling	25620 Btuh
Latent cooling	10980 Btuh
Total cooling	36600 Btuh
Actual air flow	1200 cfm
Air flow factor	0.046 cfm/Btuh
Static pressure	0.30 in H2O
Load sensible heat ratio	0.86

Bold/italic values have been manually overridden

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



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...Wrightsoft HVAC\Trane\Adams Home plan 2169.rup Calc = MJ8 Front Door faces: S

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Static Pressure and Friction Rate

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Available Static Pressure

	Heating (in H2O)	Cooling (in H2O)
External static pressure	0.30	0.30
Pressure losses		
Coil	0	0
Heat exchanger	0	0
Supply diffusers	0	0
Return grilles	0	0
Filter	0	0
Humidifier	0	0
Balancing damper	0	0
Other device	0	0
Available static pressure	0.30	0.30

Total Effective Length

	Supply (ft)	Return (ft)
Measured length of run-out	11	0
Measured length of trunk	39	0
Equivalent length of fittings	170	0
Total length	220	0
Total effective length		220

Friction Rate

	Heating (in/100ft)		Cooling (in/100ft)	
Supply Ducts	0.136	OK	0.136	OK
Return Ducts	0.136	OK	0.136	OK

Fitting Equivalent Length Details

Supply	4AD=60, 2A0=35, 11A=20, 11A=20, 1A=35: TotalEL=170
Return	TotalEL=0



Duct System Summary

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	Heating	Cooling
External static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.30 in H ₂ O	0.30 in H ₂ O
Supply / return available pressure	0.150 / 0.150 in H ₂ O	0.150 / 0.150 in H ₂ O
Lowest friction rate	0.136 in/100ft	0.136 in/100ft
Actual air flow	1200 cfm	1200 cfm
Total effective length (TEL)	220 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 1252	46	41	0.297	4.0	0x0	VIFx	6.0	95.0	st1
bkfst	h 1758	64	49	0.196	6.0	0x0	VIFx	38.1	115.0	
br2	h 4356	159	75	0.311	7.0	0x0	VIFx	1.4	95.0	
br3	c 1742	70	80	0.221	6.0	0x0	VIFx	21.0	115.0	st2
br4	h 4200	154	113	0.213	8.0	0x0	VIFx	26.1	115.0	st2
dining	c 1891	77	87	0.209	7.0	0x0	VIFx	28.5	115.0	st1
family	c 3789	124	173	0.209	6.0	0x0	VIFx	28.4	115.0	st2
family-A	c 3789	124	173	0.205	6.0	0x0	VIFx	31.4	115.0	st1
kitchen	c 3414	38	156	0.207	6.0	0x0	VIFx	29.8	115.0	st1
laundry	c 942	4	43	0.170	5.0	0x0	VIFx	41.2	135.0	st3
living	h 2319	85	76	0.284	6.0	0x0	VIFx	10.8	95.0	st3
masrter bed	h 2558	94	49	0.159	7.0	0x0	VIFx	53.2	135.0	
masrter bed-A	h 2558	94	49	0.164	7.0	0x0	VIFx	48.0	135.0	
mbath	h 755	28	19	0.168	4.0	0x0	VIFx	44.1	135.0	st3
wic1	h 544	20	9	0.136	4.0	0x0	VIFx	49.9	170.0	st3
wic2	h 550	20	9	0.161	4.0	0x0	VIFx	51.2	135.0	st3

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	259	178	0.136	586	9.0	0 x 0	VinIFlx	st1
st1	Peak AVF	562	643	0.136	601	14.0	0 x 0	VinIFlx	
st2	Peak AVF	348	366	0.209	671	10.0	0 x 0	VinIFlx	

Bold/italic values have been manually overridden

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
rb1	0x 0	1200	1200	0	0	0	0	0x 0		VIFx	