



Project Summary

Entire House

Bounds Heating and Air

Job:
Date: Sep 08, 2025
By:

Email: jlegler@boundshvac.com

Project Information

For: Lo 8 Forest Cove, Maronda Homes

Notes:

Design Information

Weather: Gainesville Regional, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	68 °F
Design TD	35 °F

Ventilation Method MJ8

Heating Summary

Structure	22048 Btuh
Ducts (R-6.0)	5762 Btuh
Central vent (0 cfm)	0 Btuh

Humidification	0 Btuh
Piping	0 Btuh
Equipment load	27810 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft ²)	1941	1941
Volume (ft ³)	17490	17490
Air changes/hour	0.38	0.20
Equiv. AVF (cfm)	111	58

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	5TWR5036A1
AHRI ref	214078521

Efficiency	8.5 HSPF2
Heating input	
Heating output	31800 Btuh @ 47°F
Temperature rise	26 °F
Actual air flow	1113 cfm
Air flow factor	0.040 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 29 °F	

Backup: n/a n/a
Input = 0 kW, Output = 0 Btuh, 100 AFUE

Bold/italic values have been manually overridden

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

Sensible Cooling Equipment Load Sizing

Structure	18300 Btuh
Ducts (R-6.0)	5608 Btuh
Central vent (0 cfm)	0 Btuh

Blower 0 Btuh

Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	23239 Btuh

Latent Cooling Equipment Load Sizing

Structure	2529 Btuh
Ducts	1235 Btuh
Central vent (0 cfm)	0 Btuh

Equipment latent load 3763 Btuh

Equipment Total Load (Sen+Lat)	27002 Btuh
Req. total capacity at 0.70 SHR	2.8 ton

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	5TWR5036A1
Coil	5TEM6D04AV31++TDR+TSTAT
AHRI ref	214078521

Efficiency	12.0 EER2, 16 SEER2
Sensible cooling	23380 Btuh
Latent cooling	10020 Btuh
Total cooling	33400 Btuh
Actual air flow	1113 cfm
Air flow factor	0.047 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.86

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



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Load Short Form

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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 (%)	50	50		
Moisture difference (gr/lb)	29	44		

HEATING EQUIPMENT

Make Trane
Trade TRANE
Model 5TWR5036A1
AHRI ref 214078521
Efficiency 8.5 HSPF2
Heating input
Heating output 31800 Btuh @ 47°F
Temperature rise 26 °F
Actual air flow 1113 cfm
Air flow factor 0.040 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 29 °F

Backup: n/a n/a

Input = 0 kW, Output = 0 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Trane
Trade TRANE
Cond 5TWR5036A1
Coil 5TEM6D04AV31++TDR+TSTAT
AHRI ref 214078521
Efficiency 12.0 EER2, 16 SEER2
Sensible cooling 23380 Btuh
Latent cooling 10020 Btuh
Total cooling 33400 Btuh
Actual air flow 1113 cfm
Air flow factor 0.047 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.86

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
sun room	188	5157	5063	206	236
master bedroom	214	2270	1973	91	92
wc	22	493	209	20	10
master bath	129	1004	701	40	33
wic	67	2405	918	96	43
living/kitchen	576	4021	7229	161	337
ah	19	0	0	0	0
bedroom 2	164	2331	1993	93	93
bath 2	49	793	388	32	18
hall 2	21	0	0	0	0
hall 1	17	0	0	0	0
bedroom 3	150	3160	2099	126	98
laundry	69	1039	1132	42	53
flex	127	1264	570	51	27

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foyer	131	3874	1632	155	76
Entire House	1943	27810	23908	1113	1113
Other equip loads		0	0		
Equip. @ 0.97 RSM			23239		
Latent cooling			3763		
TOTALS	1943	27810	27002	1113	1113

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Manual S Compliance Report

Entire House

Bounds Heating and Air

Job:
Date: Sep 08, 2025
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Email: jlegler@boundshvac.com

Project Information

For: Lo 8 Forest Cove, Maronda Homes

Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	23908 Btuh	Entering coil DB:	75.0°F
Outdoor design WB:	75.8°F	Latent gain:	3763 Btuh	Entering coil WB:	62.5°F
Indoor design DB:	75.0°F	Total gain:	27671 Btuh		
Indoor RH:	50%	Estimated airflow:	1113 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	5TWR5036A1+5TEM6D04AV31++TDR+TSTAT
Actual airflow:	1113 cfm		
Sensible capacity:	28072 Btuh	117% of load	
Latent capacity:	4137 Btuh	110% of load	
Total capacity:	32209 Btuh	116% of load	SHR: 87%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	27810 Btuh	Entering coil DB:	68.0°F
Indoor design DB:	68.0°F				

Manufacturer's Performance Data at Actual Design Conditions

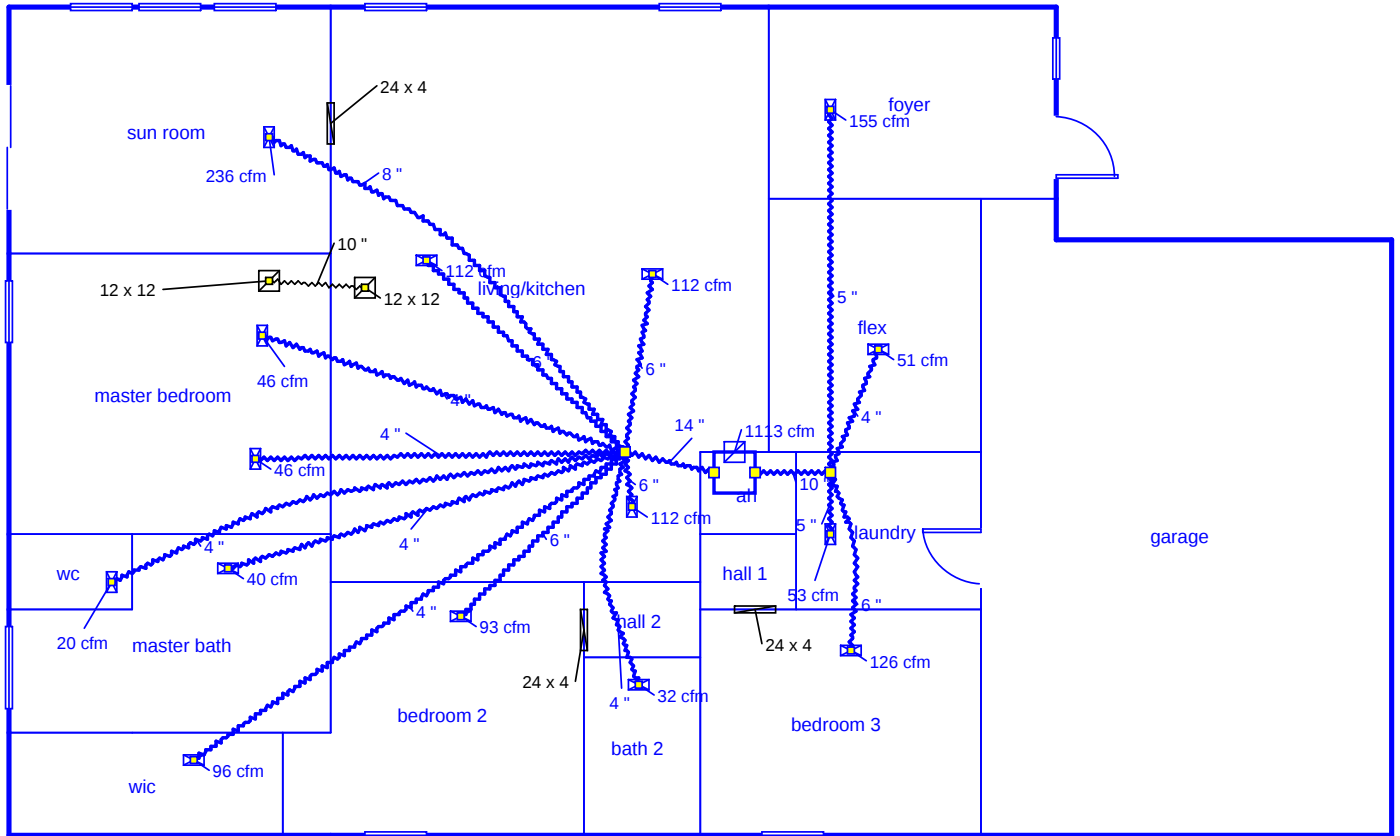
Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	5TWR5036A1+5TEM6D04AV31++TDR+TSTAT
Actual airflow:	1113 cfm		
Output capacity:	31800 Btuh	114% of load	Capacity balance: 29 °F
Supplemental heat required:	0 Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:	n/a	Model:	n/a+n/a
Actual airflow:	1113 cfm		
Output capacity:	0 kW	0% of load	Temp. rise: 0 °F

Meets all requirements of ACCA Manual S.



Level 1



Job #:
Performed for:
Lo 8 Forest Cove

Bounds Heating and Air

jlegler@boundshvac.com

Scale: 1 : 112

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Duct System Summary

Entire House

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By:

Email: jlegler@boundshvac.com

Project Information

For: Lo 8 Forest Cove, Maronda Homes

	Heating	Cooling
External static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Supply / return available pressure	0.250 / 0.250 in H ₂ O	0.250 / 0.250 in H ₂ O
Lowest friction rate	0.398 in/100ft	0.398 in/100ft
Actual air flow	1113 cfm	1113 cfm
Total effective length (TEL)	126 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 2	h 793	32	18	0.449	4.0	0x0	VIFx	16.3	95.0	st2
bedroom 2	h 2331	93	93	0.473	6.0	0x0	VIFx	15.8	90.0	st2
bedroom 3	h 3160	126	98	0.465	6.0	0x0	VIFx	12.6	95.0	st1
flex	h 1264	51	27	0.499	4.0	0x0	VIFx	10.1	90.0	st1
foyer	h 3874	155	76	0.449	5.0	0x0	VIFx	21.3	90.0	st1
laundry	c 1132	42	53	0.517	5.0	0x0	VIFx	6.7	90.0	st1
living/kitchen	c 2410	54	112	0.463	6.0	0x0	VIFx	17.9	90.0	st2
living/kitchen-A	c 2410	54	112	0.484	6.0	0x0	VIFx	13.2	90.0	st2
living/kitchen-B	c 2410	54	112	0.515	6.0	0x0	VIFx	7.1	90.0	st2
master bath	h 1004	40	33	0.436	4.0	0x0	VIFx	24.6	90.0	st2
master bedroom	c 987	45	46	0.442	4.0	0x0	VIFx	23.0	90.0	st2
master bedroom-A	c 987	45	46	0.445	4.0	0x0	VIFx	22.5	90.0	st2
sun room-A	c 5063	206	236	0.406	8.0	0x0	VIFx	28.1	95.0	st2
wc	h 493	20	10	0.398	4.0	0x0	VIFx	30.5	95.0	st2
wic	h 2405	96	43	0.416	4.0	0x0	VIFx	30.3	90.0	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	374	253	0.449	685	10.0	0 x 0	VinIFlx	
st2	Peak AVF	739	860	0.398	805	14.0	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	1113	1113	0	0	0	0	0x 0		VIFx	