



Load Short Form

Entire House

Bounds Heating and Air

Job:
Date: Aug 27, 2024
By:

Email: jlegler@boundshvac.com

Project Information

For: Lominack-Puig, Hartley Brothers Inc.

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 Carrier
Trade 15 SEER2 HP
Model GH5SAN42400AA0
AHRI ref 210998533

Efficiency 7.5 HSPF2
Heating input
Heating output 23600 Btuh @ 47°F
Temperature rise 27 °F
Actual air flow 787 cfm
Air flow factor 0.039 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 30 °F

Backup: n/a n/a

Input = 6 kW, Output = 20007 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Carrier
Trade 15 SEER2 HP
Cond GH5SAN42400AA0
Coil FJ4DNXB24L
AHRI ref 210998533

Efficiency 12.5 EER2, 15.2 SEER2
Sensible cooling 16520 Btuh
Latent cooling 7080 Btuh
Total cooling 23600 Btuh
Actual air flow 787 cfm
Air flow factor 0.051 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.83

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
bedroom 2	163	3236	1699	127	87
bath 2	55	729	348	29	18
bedroom 3	160	3158	1684	124	87
hall	19	0	0	0	0
living/kitchen	482	5437	6199	214	319
master bedroom	186	3441	2108	135	108
wic	42	56	98	2	5
master bath	64	1203	844	47	43
ah	31	0	0	0	0
laundry	103	2745	2308	108	119

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



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Entire House	1305	20007	15287	787	787
Other equip loads		0	0		
Equip. @ 0.97 RSM			14859		
Latent cooling			3021		
TOTALS	1305	20007	17880	787	787

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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	16312 Btuh
Ducts (R-6.0)	3695 Btuh
Central vent (0 cfm) (none)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	20007 Btuh

Sensible Cooling Equipment Load Sizing

Structure	10652 Btuh
Ducts (R-6.0)	4634 Btuh
Central vent (0 cfm) (none)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	14859 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	2135 Btuh
Ducts	886 Btuh
Central vent (0 cfm) (none)	0 Btuh
Equipment latent load	3021 Btuh

	Heating	Cooling
Area (ft ²)	1305	1305
Volume (ft ³)	11745	11745
Air changes/hour	0.45	0.23
Equiv. AVF (cfm)	88	45

Equipment Total Load (Sen+Lat)	17880 Btuh
Req. total capacity at 0.70 SHR	1.8 ton

Heating Equipment Summary

Make	Carrier
Trade	15 SEER2 HP
Model	GH5SAN42400AA0
AHRI ref	210998533
Efficiency	7.5 HSPF2
Heating input	
Heating output	23600 Btuh @ 47°F
Temperature rise	27 °F
Actual air flow	787 cfm
Air flow factor	0.039 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 30 °F	
Backup: n/a n/a	
Input = 6 kW, Output = 20007 Btuh, 100 AFUE	

Cooling Equipment Summary

Make	Carrier
Trade	15 SEER2 HP
Cond	GH5SAN42400AA0
Coil	FJ4DNXB24L
AHRI ref	210998533
Efficiency	12.5 EER2, 15.2 SEER2
Sensible cooling	16520 Btuh
Latent cooling	7080 Btuh
Total cooling	23600 Btuh
Actual air flow	787 cfm
Air flow factor	0.051 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.83

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Duct System Summary

Entire House

Bounds Heating and Air

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By:

Email: jlegler@boundshvac.com

Project Information

For: Lominack-Puig, Hartley Brothers Inc.

	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	0.382 / 0.118 in H ₂ O	0.382 / 0.118 in H ₂ O
Lowest friction rate	0.325 in/100ft	0.325 in/100ft
Actual air flow	787 cfm	787 cfm
Total effective length (TEL)	154 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 729	29	18	0.332	4.0	0x0	VIFx	25.3	90.0	st1
bedroom 2	h 3236	127	87	0.325	6.0	0x0	VIFx	27.8	90.0	st1
bedroom 3	h 3158	124	87	0.327	6.0	0x0	VIFx	26.9	90.0	st1
laundry	c 2308	108	119	0.339	6.0	0x0	VIFx	17.7	95.0	st2
living/kitchen	c 3099	107	159	0.361	7.0	0x0	VIFx	15.8	90.0	st1
living/kitchen-A	c 3099	107	159	0.373	7.0	0x0	VIFx	12.5	90.0	st1
master bath	h 1203	47	43	0.382	4.0	0x0	VIFx	10.2	90.0	st2
master bedroom	h 3441	135	108	0.382	7.0	0x0	VIFx	10.1	90.0	st2
wic	c 98	2	5	0.391	4.0	0x0	VIFx	7.8	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	494	511	0.325	651	12.0	0 x 0	VinIFlx	
st2	Peak AVF	293	276	0.339	537	10.0	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
rb1	0x0	787	787	36.2	0.325	563	16.0	0x 0		VIFx	rst3

Bold/italic values have been manually overridden



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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
rst3	Peak AVF	787	787	0.325	736	14.0	0 x 0	VinIFlx	

Bold/italic values have been manually overridden



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Manual S Compliance Report
Entire House
Bounds Heating and Air

Job:
Date: Aug 27, 2024
By:

Email: jlegler@boundshvac.com

Project Information

For: Lominack-Puig, Hartley Brothers Inc.

Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	15287	Btuh	Entering coil DB:	76.9°F
Outdoor design WB:	75.8°F	Latent gain:	3021	Btuh	Entering coil WB:	63.4°F
Indoor design DB:	75.0°F	Total gain:	18308	Btuh		
Indoor RH:	50%	Estimated airflow:	787	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Carrier	Model:	GH5SAN42400AA0+FJ4DNXB24L	
Actual airflow:	787	cfm		
Sensible capacity:	18418	Btuh	120% of load	
Latent capacity:	3924	Btuh	130% of load	
Total capacity:	22342	Btuh	122% of load	SHR: 82%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	20007	Btuh	Entering coil DB:	67.2°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP			
Manufacturer:	Carrier	Model:	GH5SAN42400AA0+FJ4DNXB24L	
Actual airflow:	787	cfm		
Output capacity:	23600	Btuh	118% of load	Capacity balance: 30 °F
Supplemental heat required:	0	Btuh		Economic balance: -99 °F

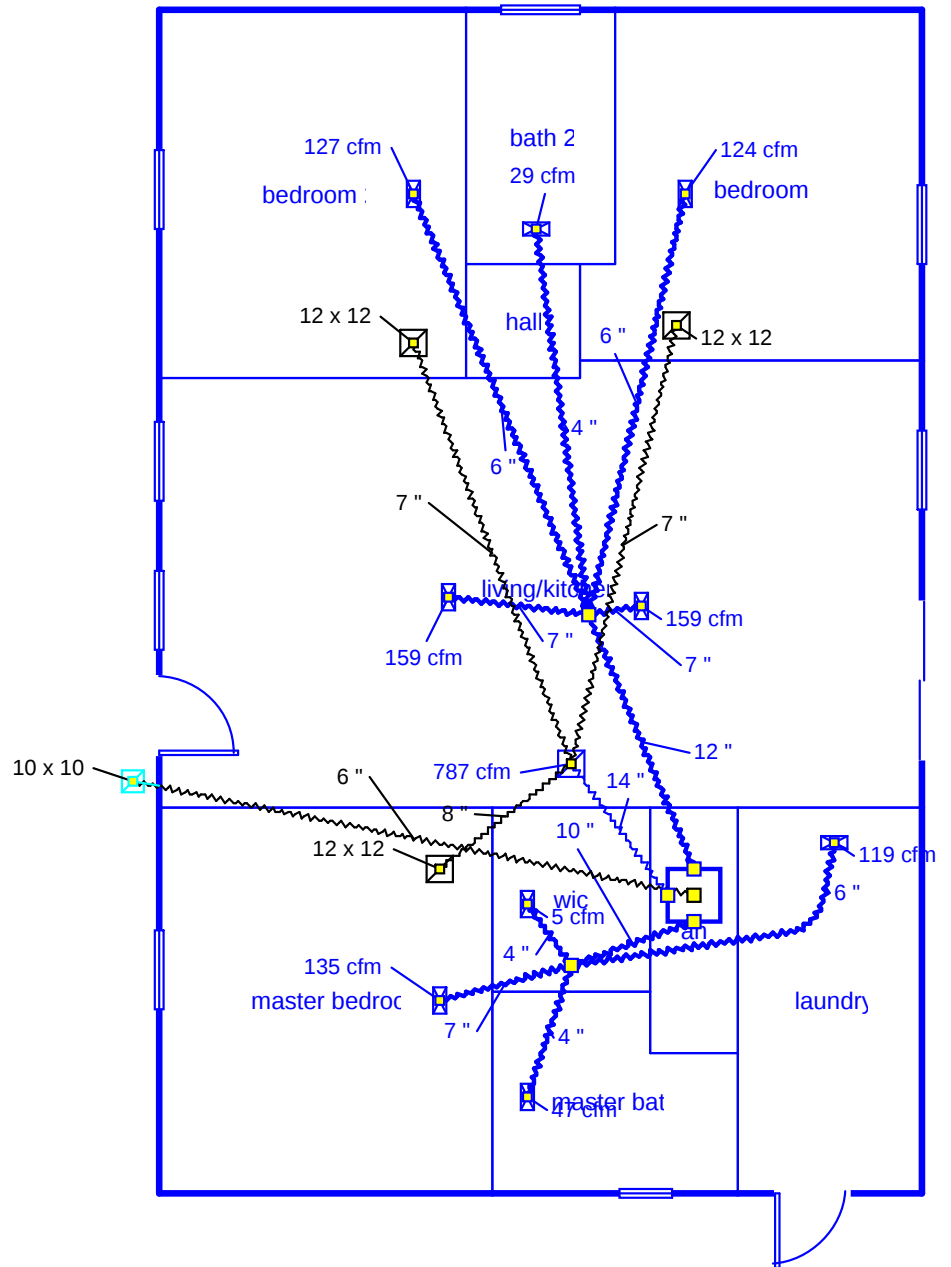
Backup equipment type:	Elec strip			
Manufacturer:	n/a	Model:	n/a+n/a	
Actual airflow:	787	cfm		
Output capacity:	5.9	kW	100% of load	Temp. rise: 23 °F

Meets all requirements of ACCA Manual S.



4'-0"

Level 1



Job #:
Performed for:
Lominack-Puig

Bounds Heating and Air

jlegler@boundshvac.com

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