



Project Summary
Entire House
Energy Vanguard

Job: 19067
 Date: 9/16/2019
 By: Allison Bailes
 Plan: 19067 Rev0

533 W. Howard Ave., Suite E, Decatur, GA 30030 Phone: (404) 428-3393 Email: hvac@energyvanguard.com Web: www.energyvanguard.com

Project Information

For: [REDACTED]
 Notes: [REDACTED]

Design Information

Weather: Baltimore Blt-Washngtn Int'l, MD, US

Winter Design Conditions

Outside db	17 °F
Inside db	70 °F
Design TD	53 °F

Summer Design Conditions

Outside db	91 °F
Inside db	75 °F
Design TD	16 °F
Daily range	M
Relative humidity	50 %
Moisture difference	36 gr/lb

Heating Summary

Structure	11193 Btuh
Ducts	0 Btuh
Central vent (77 cfm)	1952 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	13146 Btuh

Sensible Cooling Equipment Load Sizing

Structure	8556 Btuh
Ducts	0 Btuh
Central vent (77 cfm)	600 Btuh
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.96
Equipment sensible load	8809 Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	1124 Btuh
Ducts	0 Btuh
Central vent (77 cfm)	1048 Btuh
Equipment latent load	1124 Btuh
Equipment Total Load (Sen+Lat)	9933 Btuh
Req. total capacity at 0.70 SHR	1.0 ton

	Heating	Cooling
Area (ft ²)	3203	3203
Volume (ft ³)	16016	16016
Air changes/hour	0.10	0.05
Equiv. AVF (cfm)	27	13

Heating Equipment Summary

Make	n/a
Trade	n/a
Model	n/a
AHRI ref	n/a
Efficiency	n/a
Heating input	
Heating output	0 Btuh
Temperature rise	0 °F
Actual air flow	0 cfm
Air flow factor	0 cfm/Btuh
Static pressure	0 in H2O
Space thermostat	n/a

Cooling Equipment Summary

Make	n/a
Trade	n/a
Cond	n/a
Coil	n/a
AHRI ref	n/a
Efficiency	n/a
Sensible cooling	0 Btuh
Latent cooling	0 Btuh
Total cooling	0 Btuh
Actual air flow	0 cfm
Air flow factor	0 cfm/Btuh
Static pressure	0 in H2O
Load sensible heat ratio	0

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





Project Summary
Basement
Energy Vanguard

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Project Information

For: 
 Notes: 

Design Information

Weather: Baltimore Blt-Washngtn Int'l, MD, US

Winter Design Conditions

Outside db	17 °F
Inside db	70 °F
Design TD	53 °F

Summer Design Conditions

Outside db	91 °F
Inside db	75 °F
Design TD	16 °F
Daily range	M
Relative humidity	50 %
Moisture difference	36 gr/lb

Heating Summary

Structure	4458 Btuh
Ducts	0 Btuh
Central vent (SER=65% 31 cfm)	626 Btuh
Energy recovery	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	5084 Btuh

Sensible Cooling Equipment Load Sizing

Structure	224 Btuh
Ducts	0 Btuh
Central vent (SER=65% 31 cfm)	192 Btuh
Energy recovery	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.96
Equipment sensible load	401 Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	58 Btuh
Ducts	0 Btuh
Central vent (LER=35% 31 cfm)	489 Btuh
Energy recovery	
Equipment latent load	547 Btuh

	Heating	Cooling
Area (ft²)	1602	1602
Volume (ft³)	2402	2402
Air changes/hour	0.12	0.06
Equiv. AVF (cfm)	5	2

Equipment Total Load (Sen+Lat)	948 Btuh
Req. total capacity at 0.43 SHR	0.1 ton

Heating Equipment Summary

Make	Generic
Trade	
Model	SEER 18.0, HSPF 9.1
AHRI ref	
Efficiency	9.1 HSPF
Heating input	
Heating output	569 Btuh @ 47°F
Temperature rise	27 °F
Actual air flow	19 cfm
Air flow factor	0.004 cfm/Btuh
Static pressure	0 in H2O
Space thermostat	
Capacity balance point = 57 °F	

Cooling Equipment Summary

Make	Generic
Trade	
Cond	SEER 18.0, HSPF 9.1
Coil	
AHRI ref	
Efficiency	14.7 EER, 18 SEER
Sensible cooling	401 Btuh
Latent cooling	172 Btuh
Total cooling	572 Btuh
Actual air flow	19 cfm
Air flow factor	0.085 cfm/Btuh
Static pressure	0 in H2O
Load sensible heat ratio	0.43

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Project Summary
First Floor
Energy Vanguard

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Project Information

For:



Notes:

Design Information

Weather: Baltimore Blt-Washngtn Int'l, MD, US

Winter Design Conditions

Outside db	17 °F
Inside db	70 °F
Design TD	53 °F

Summer Design Conditions

Outside db	91 °F
Inside db	75 °F
Design TD	16 °F
Daily range	M
Relative humidity	50 %
Moisture difference	36 gr/lb

Heating Summary

Structure	6735 Btuh
Ducts	0 Btuh
Central vent (SER=50% 46 cfm)	1326 Btuh
Energy recovery	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	8061 Btuh

Sensible Cooling Equipment Load Sizing

Structure	8332 Btuh
Ducts	0 Btuh
Central vent (SER=50% 46 cfm)	408 Btuh
Energy recovery	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.96
Equipment sensible load	8408 Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	1066 Btuh
Ducts	0 Btuh
Central vent (LER=50% 46 cfm)	558 Btuh
Energy recovery	
Equipment latent load	1624 Btuh

	Heating	Cooling
Area (ft ²)	1602	1602
Volume (ft ³)	13613	13613
Air changes/hour	0.10	0.05
Equiv. AVF (cfm)	22	11

Equipment Total Load (Sen+Lat)	10032 Btuh
Req. total capacity at 0.84 SHR	0.8 ton

Heating Equipment Summary

Make	Generic
Trade	
Model	SEER 18.0, HSPF 9.1
AHRI ref	
Efficiency	9.1 HSPF
Heating input	
Heating output	11952 Btuh @ 47°F
Temperature rise	27 °F
Actual air flow	400 cfm
Air flow factor	0.059 cfm/Btuh
Static pressure	0 in H2O
Space thermostat	
Capacity balance point = 5 °F	

Cooling Equipment Summary

Make	Generic
Trade	
Cond	SEER 18.0, HSPF 9.1
Coil	
AHRI ref	
Efficiency	14.7 EER, 18 SEER
Sensible cooling	8408 Btuh
Latent cooling	3603 Btuh
Total cooling	12011 Btuh
Actual air flow	400 cfm
Air flow factor	0.048 cfm/Btuh
Static pressure	0 in H2O
Load sensible heat ratio	0.84

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