Project Summary
Entire House
Energy Vanguard

533 W. Howard Ave., Suite E, Decatur, GA 30030 Phone: (404) 267-1839 Email: hvac@energyvanguard.com Web: www.energyvanguard.com

Project Information

Design Information

Weather: Trenton Mercer AP, NJ, US

Winter Design Conditions

Outside db	***10***	°F
Inside db	70	°F
Design TD	60	°F

Summer Design Conditions

Outside db	***91***	°F
Inside db	75	°F
Design TD	16	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	30	gr/lb

Heating Summary

Structure	40884	Btuh
Ducts	0	Btuh
Central vent (0 cfm)	0	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	40884	Btuh

Sensible Cooling Equipment Load Sizing

Structure	17188	Btuh
Ducts	0	Btuh
Central vent (0 cfm)	0	Btuh
Blower	0	Btuh
Use manufacturer's data	y	
Rate/swing multiplier	1.00	
Equipment sensible load	17188	Btuh

Infiltration

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 6.0 / 1766 cfm

	Heating	Cooling
Area (ft²)	2005	2005
Volume (ft³)	17655	17655
Air changes/hour	0.64	0.32
Equiv. AVF (cfm)	187	95

Latent Cooling Equipment Load Sizing

Structure	2743	Btuh
Ducts	0	Btuh
Central vent (0 cfm)	0	Btuh
Equipment latent load	2743	Btuh
Equipment Total Load (Sen+Lat)	19930	Btuh
Req. total capacity at 0.70 SHR	2.0	ton

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

Bold/italic values have been manually overridden

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

Project Summary
1AH1 Living
Energy Vanguard

533 W. Howard Ave., Suite E, Decatur, GA 30030 Phone: (404) 267-1839 Email: hvac@energyvanguard.com Web: www.energyvanguard.com

Project Information

Design Information

Weather: Trenton Mercer AP, NJ, US

Winter Design Conditions

Outside db	***10***	°F
Inside db	70	°F
Design TD	60	°F

Summer Design Conditions

Outside db	***91***	°F
Inside db	75	°F
Design TD	16	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	30	gr/lb

Heating Summary

Structure	8657	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	8657	Btuh

Sensible Cooling Equipment Load Sizing

Structure	4674	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Blower	0	Btuh
Use manufacturer's data	y	
Rate/swing multiplier	1.00	
Equipment sensible load	4674	Btuh

Infiltration

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 6.0 / 1766 cfm

	Heating	Cooling
Area (ft²)	365	365
Volume (ft³)	2916	2916
Air changes/hour	0.58	0.30
Equiv. AVF (cfm)	28	14

Latent Cooling Equipment Load Sizing

Structure	894	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Equipment latent load	894	Btuh
Equipment Total Load (Sen+Lat)	5569	Btuh
Req. total capacity at 0.92 SHR	0.4	ton

Heating Equipment Summary

Make	Mitsubishi Electric
Trade	Mitsubishi Electric
Model	MXZ-SM36NAMHZ2
AHRI ref	

Efficiency	10 HSPF2	
Heating input		
Heating output	9600	Btuh @ 47°F
Temperature rise	29	°F
Actual air flow	300	cfm
Air flow factor	0.035	cfm/Btuh
Static pressure	0	in H2O

Space thermostat
Capacity balance point = 17 °F

Cooling Equipment Summary

Make	Mitsubishi Electric
Trade	Mitsubishi Electric
Cond	MXZ-SM36NAMHZ2
Coil	MSZ-FS09NA
AHRI ref	

Efficiency	16.0 EER2,29.8 SEER2	
Sensible cooling	8280	Btuh
Latent cooling	720	Btuh
Total cooling	9000	Btuh
Actual air flow	300	cfm
Air flow factor	0.064	cfm/Btuh
Static pressure	0	in H2O
Load sensible heat ratio	0.84	

Bold/italic values have been manually overridden

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

Project Summary
1AH2 Kitchen
Energy Vanguard

533 W. Howard Ave., Suite E, Decatur, GA 30030 Phone: (404) 267-1839 Email: hvac@energyvanguard.com Web: www.energyvanguard.com

Project Information

Design Information

Weather: Trenton Mercer AP, NJ, US

Winter Design Conditions

Outside db	***10***	°F
Inside db	70	°F
Design TD	60	°F

Summer Design Conditions

Outside db	***91***	°F
Inside db	75	°F
Design TD	16	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	30	gr/lb

Heating Summary

Structure	9565	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	9565	Btuh

Sensible Cooling Equipment Load Sizing

Structure	3838	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Blower	0	Btuh
Use manufacturer's data	y	
Rate/swing multiplier	1.00	
Equipment sensible load	3838	Btuh

Infiltration

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 6.0 / 1766 cfm

	Heating	Cooling
Area (ft²)	506	506
Volume (ft³)	4830	4830
Air changes/hour	0.47	0.24
Equiv. AVF (cfm)	38	19

Latent Cooling Equipment Load Sizing

Structure	394	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Equipment latent load	394	Btuh
Equipment Total Load (Sen+Lat)	4232	Btuh
Req. total capacity at 0.92 SHR	0.3	ton

Heating Equipment Summary

Make	Mitsubishi Electric
Trade	Mitsubishi Electric
Model	MXZ-SM36NAMHZ2
AHRI ref	

Efficiency	10 HSPF2	
Heating input		
Heating output	9600	Btuh @ 47°F
Temperature rise	29	°F
Actual air flow	300	cfm
Air flow factor	0.031	cfm/Btuh
Static pressure	0	in H2O
Space thermostat		

Capacity balance point = 19 °F

Cooling Equipment Summary

Make	Mitsubishi Electric
Trade	Mitsubishi Electric
Cond	MXZ-SM36NAMHZ2
Coil	MSZ-FS09NA
AHRI ref	

Efficiency	16.0 EER2,29.8 SEER2	
Sensible cooling	8280	Btuh
Latent cooling	720	Btuh
Total cooling	9000	Btuh
Actual air flow	300	cfm
Air flow factor	0.078	cfm/Btuh
Static pressure	0	in H2O
Load sensible heat ratio	0.91	

Bold/italic values have been manually overridden

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

Project Summary
1AH3 Family
Energy Vanguard

533 W. Howard Ave., Suite E, Decatur, GA 30030 Phone: (404) 267-1839 Email: hvac@energyvanguard.com Web: www.energyvanguard.com

Project Information

Design Information

Weather: Trenton Mercer AP, NJ, US

Winter Design Conditions

Outside db	***10***	°F
Inside db	70	°F
Design TD	60	°F

Summer Design Conditions

Outside db	***91***	°F
Inside db	75	°F
Design TD	16	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	30	gr/lb

Heating Summary

Structure	11469	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	11469	Btuh

Sensible Cooling Equipment Load Sizing

Structure	5040	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Blower	0	Btuh
Use manufacturer's data	y	
Rate/swing multiplier	1.00	
Equipment sensible load	5040	Btuh

Infiltration

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 6.0 / 1766 cfm

	Heating	Cooling
Area (ft²)	419	419
Volume (ft³)	4185	4185
Air changes/hour	0.66	0.33
Equiv. AVF (cfm)	46	23

Latent Cooling Equipment Load Sizing

Structure	677	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Equipment latent load	677	Btuh
Equipment Total Load (Sen+Lat)	5717	Btuh
Req. total capacity at 0.83 SHR	0.5	ton

Heating Equipment Summary

Make	Mitsubishi Electric
Trade	Mitsubishi Electric
Model	MXZ-SM36NAMHZ2
AHRI ref	

Efficiency	10.4 HSPF2	
Heating input		
Heating output	12300	Btuh @ 47°F
Temperature rise	28	°F
Actual air flow	400	cfm
Air flow factor	0.035	cfm/Btuh
Static pressure	0	in H2O
Space thermostat		

Capacity balance point = 15 °F

Cooling Equipment Summary

Make	Mitsubishi Electric
Trade	Mitsubishi Electric
Cond	MXZ-SM36NAMHZ2
Coil	MSZ-FS12NA
AHRI ref	

Efficiency	13.8 EER2,26.3 SEER2	
Sensible cooling	9960	Btuh
Latent cooling	2040	Btuh
Total cooling	12000	Btuh
Actual air flow	400	cfm
Air flow factor	0.079	cfm/Btuh
Static pressure	0	in H2O
Load sensible heat ratio	0.88	

Bold/italic values have been manually overridden

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

Project Summary
2AH1 2nd Flr
Energy Vanguard

533 W. Howard Ave., Suite E, Decatur, GA 30030 Phone: (404) 267-1839 Email: hvac@energyvanguard.com Web: www.energyvanguard.com

Project Information

Design Information

Weather: Trenton Mercer AP, NJ, US

Winter Design Conditions

Outside db	***10***	°F
Inside db	70	°F
Design TD	60	°F

Summer Design Conditions

Outside db	***91***	°F
Inside db	75	°F
Design TD	16	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	30	gr/lb

Heating Summary

Structure	11193	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	11193	Btuh

Sensible Cooling Equipment Load Sizing

Structure	4986	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Blower	0	Btuh
Use manufacturer's data	y	
Rate/swing multiplier	1.00	
Equipment sensible load	4986	Btuh

Infiltration

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 6.0 / 1766 cfm

	Heating	Cooling
Area (ft²)	716	716
Volume (ft³)	5724	5724
Air changes/hour	0.78	0.40
Equiv. AVF (cfm)	75	38

Latent Cooling Equipment Load Sizing

Structure	777	Btuh
Ducts	0	Btuh
Central vent (0 cfm) (none)	0	Btuh
Equipment latent load	777	Btuh
Equipment Total Load (Sen+Lat)	5764	Btuh
Req. total capacity at 0.82 SHR	0.5	ton

Heating Equipment Summary

Make	Mitsubishi Electric
Trade	Mitsubishi Electric
Model	SUZ-KA09NAHZ*
AHRI ref	213362132

Efficiency	9.9 HSPF2	
Heating input		
Heating output	12000	Btuh @ 47°F
Temperature rise	37	°F
Actual air flow	300	cfm
Air flow factor	0.027	cfm/Btuh
Static pressure	0.60	in H2O
Space thermostat		

Capacity balance point = 20 °F

Cooling Equipment Summary

Make	Mitsubishi Electric
Trade	Mitsubishi Electric
Cond	SUZ-KA09NAHZ*
Coil	PEAD-A09AA9
AHRI ref	213362132

Efficiency	13.4 EER2, 19 SEER2	
Sensible cooling	7380	Btuh
Latent cooling	1620	Btuh
Total cooling	9000	Btuh
Actual air flow	300	cfm
Air flow factor	0.060	cfm/Btuh
Static pressure	0.60	in H2O
Load sensible heat ratio	0.87	

Bold/italic values have been manually overridden

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