



Project Summary
Entire House
Energy Vanguard

Job: 21001 Rondeau
 Date: Jan 29, 2020
 By: [Redacted]
 Plan: 21001 Rev0

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

Project Information

For: Will Rondeau
 [Redacted]

Notes: _____

Design Information

Weather: Norwood Memorial, MA, US

Winter Design Conditions

| | |
|------------|-------|
| Outside db | 9 °F |
| Inside db | 70 °F |
| Design TD | 61 °F |

Summer Design Conditions

| | |
|---------------------|----------|
| Outside db | 88 °F |
| Inside db | 75 °F |
| Design TD | 13 °F |
| Daily range | M |
| Relative humidity | 50 % |
| Moisture difference | 30 gr/lb |

Heating Summary

| | |
|-----------------------|------------|
| Structure | 45259 Btuh |
| Ducts | 0 Btuh |
| Central vent (28 cfm) | 947 Btuh |
| Humidification | 0 Btuh |
| Piping | 0 Btuh |
| Equipment load | 46205 Btuh |

Sensible Cooling Equipment Load Sizing

| | |
|-------------------------|------------|
| Structure | 23554 Btuh |
| Ducts | 0 Btuh |
| Central vent (28 cfm) | 200 Btuh |
| Blower | 0 Btuh |
| Use manufacturer's data | n |
| Rate/swing multiplier | 0.93 |
| Equipment sensible load | 22068 Btuh |

Infiltration

| | |
|---------------------|------------------|
| Method | Blower door |
| Shielding / stories | 3 (partial) / 2 |
| Pressure / AVF | 50 Pa / 2000 cfm |

Latent Cooling Equipment Load Sizing

| | |
|-----------------------|-----------|
| Structure | 2705 Btuh |
| Ducts | 0 Btuh |
| Central vent (28 cfm) | 290 Btuh |
| Equipment latent load | 2705 Btuh |

| | Heating | Cooling |
|---------------------------|---------|---------|
| Area (ft ²) | 1577 | 1577 |
| Volume (ft ³) | 14193 | 14193 |
| Air changes/hour | 0.90 | 0.43 |
| Equiv. AVF (cfm) | 213 | 103 |

| | |
|---------------------------------------|------------|
| Equipment Total Load (Sen+Lat) | 24773 Btuh |
| Req. total capacity at 0.70 SHR | 2.6 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 |

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





Project Summary
1AH1 Main
Energy Vanguard

Job: 21001 Rondeau
 Date: Jan 29, 2020
 By:
 Plan: 21001 Rev0

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

Project Information

For: Will Rondeau

Notes:

Design Information

Weather: Norwood Memorial, MA, US

Winter Design Conditions

| | |
|------------|-------|
| Outside db | 9 °F |
| Inside db | 70 °F |
| Design TD | 61 °F |

Summer Design Conditions

| | |
|---------------------|----------|
| Outside db | 88 °F |
| Inside db | 75 °F |
| Design TD | 13 °F |
| Daily range | M |
| Relative humidity | 50 % |
| Moisture difference | 30 gr/lb |

Heating Summary

| | |
|-------------------------------|------------|
| Structure | 18037 Btuh |
| Ducts | 0 Btuh |
| Central vent (SER=50% 12 cfm) | 386 Btuh |
| Energy recovery | |
| Humidification | 0 Btuh |
| Piping | 0 Btuh |
| Equipment load | 18424 Btuh |

Sensible Cooling Equipment Load Sizing

| | |
|-------------------------------|------------|
| Structure | 12003 Btuh |
| Ducts | 0 Btuh |
| Central vent (SER=50% 12 cfm) | 82 Btuh |
| Energy recovery | |
| Blower | 0 Btuh |
| Use manufacturer's data | n |
| Rate/swing multiplier | 0.93 |
| Equipment sensible load | 11226 Btuh |

Infiltration

| | |
|---------------------|------------------|
| Method | Blower door |
| Shielding / stories | 3 (partial) / 2 |
| Pressure / AVF | 50 Pa / 2000 cfm |

Latent Cooling Equipment Load Sizing

| | |
|-------------------------------|-----------|
| Structure | 1109 Btuh |
| Ducts | 0 Btuh |
| Central vent (LER=50% 12 cfm) | 118 Btuh |
| Energy recovery | |
| Equipment latent load | 1227 Btuh |

| | Heating | Cooling |
|------------------|---------|---------|
| Area (ft²) | 653 | 653 |
| Volume (ft³) | 5877 | 5877 |
| Air changes/hour | 0.73 | 0.35 |
| Equiv. AVF (cfm) | 72 | 35 |

| | |
|---------------------------------------|------------|
| Equipment Total Load (Sen+Lat) | 12454 Btuh |
| Req. total capacity at 0.70 SHR | 1.3 ton |

Heating Equipment Summary

| | |
|--------------------------------|---------------------|
| Make | Mitsubishi Electric |
| Trade | Mitsubishi Electric |
| Model | MUZ-FH18NA2 |
| AHRI ref | 201754302 |
| Efficiency | 12 HSPF |
| Heating input | |
| Heating output | 20200 Btuh @ 47°F |
| Temperature rise | 61 °F |
| Actual air flow | 304 cfm |
| Air flow factor | 0.017 cfm/Btuh |
| Static pressure | 0 in H2O |
| Space thermostat | |
| Capacity balance point = 14 °F | |

Cooling Equipment Summary

| | |
|--------------------------|---------------------|
| Make | Mitsubishi Electric |
| Trade | Mitsubishi Electric |
| Cond | MUZ-FH18NA2 |
| Coil | MSZ-FH18NA** |
| AHRI ref | 201754302 |
| Efficiency | 21.0 EER, 12.5 SEER |
| Sensible cooling | 12040 Btuh |
| Latent cooling | 5160 Btuh |
| Total cooling | 17200 Btuh |
| Actual air flow | 304 cfm |
| Air flow factor | 0.025 cfm/Btuh |
| Static pressure | 0 in H2O |
| Load sensible heat ratio | 0.91 |

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





Project Summary
1AH2 Bedroom
Energy Vanguard

Job: 21001 Rondeau
 Date: Jan 29, 2020
 By: [Redacted]
 Plan: 21001 Rev0

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

Project Information

For: Will Rondeau
 [Redacted]

Notes:

Design Information

Weather: Norwood Memorial, MA, US

Winter Design Conditions

| | |
|------------|-------|
| Outside db | 9 °F |
| Inside db | 70 °F |
| Design TD | 61 °F |

Summer Design Conditions

| | |
|---------------------|----------|
| Outside db | 88 °F |
| Inside db | 75 °F |
| Design TD | 13 °F |
| Daily range | M |
| Relative humidity | 50 % |
| Moisture difference | 30 gr/lb |

Heating Summary

| | |
|------------------------------|-----------|
| Structure | 5820 Btuh |
| Ducts | 0 Btuh |
| Central vent (SER=50% 4 cfm) | 123 Btuh |
| Energy recovery | |
| Humidification | 0 Btuh |
| Piping | 0 Btuh |
| Equipment load | 5942 Btuh |

Sensible Cooling Equipment Load Sizing

| | |
|------------------------------|-----------|
| Structure | 3239 Btuh |
| Ducts | 0 Btuh |
| Central vent (SER=50% 4 cfm) | 26 Btuh |
| Energy recovery | |
| Blower | 0 Btuh |
| Use manufacturer's data | n |
| Rate/swing multiplier | 0.93 |
| Equipment sensible load | 3033 Btuh |

Infiltration

| | |
|---------------------|------------------|
| Method | Blower door |
| Shielding / stories | 3 (partial) / 2 |
| Pressure / AVF | 50 Pa / 2000 cfm |

Latent Cooling Equipment Load Sizing

| | |
|------------------------------|----------|
| Structure | 285 Btuh |
| Ducts | 0 Btuh |
| Central vent (LER=50% 4 cfm) | 38 Btuh |
| Energy recovery | |
| Equipment latent load | 323 Btuh |

| | Heating | Cooling |
|---------------------------|----------------|----------------|
| Area (ft ²) | 116 | 116 |
| Volume (ft ³) | 1043 | 1043 |
| Air changes/hour | 1.66 | 0.80 |
| Equiv. AVF (cfm) | 29 | 14 |

| | |
|---------------------------------------|-----------|
| Equipment Total Load (Sen+Lat) | 3355 Btuh |
| Req. total capacity at 0.96 SHR | 0.3 ton |

Heating Equipment Summary

| | |
|-------------------------------|---------------------|
| Make | Mitsubishi Electric |
| Trade | Mitsubishi Electric |
| Model | MUZ-FH06NAH |
| AHRI ref | |
| Efficiency | 13.5 HSPF |
| Heating input | |
| Heating output | 8700 Btuh @ 47°F |
| Temperature rise | 36 °F |
| Actual air flow | 221 cfm |
| Air flow factor | 0.038 cfm/Btuh |
| Static pressure | 0 in H2O |
| Space thermostat | |
| Capacity balance point = 8 °F | |

Cooling Equipment Summary

| | |
|--------------------------|---------------------|
| Make | Mitsubishi Electric |
| Trade | Mitsubishi Electric |
| Cond | MUZ-FH06NAH |
| Coil | MSZ-FH06NA |
| AHRI ref | |
| Efficiency | 33 SEER |
| Sensible cooling | 5760 Btuh |
| Latent cooling | 240 Btuh |
| Total cooling | 6000 Btuh |
| Actual air flow | 221 cfm |
| Air flow factor | 0.068 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 Rm
Energy Vanguard

Job: 21001 Rondeau
 Date: Jan 29, 2020
 By: 
 Plan: 21001 Rev0

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

Project Information

For: Will Rondeau
 50 Huntington Ave, Sharon, MA 02067

Notes:

Design Information

Weather: Norwood Memorial, MA, US

Winter Design Conditions

Outside db 9 °F
 Inside db 70 °F
 Design TD 61 °F

Summer Design Conditions

Outside db 88 °F
 Inside db 75 °F
 Design TD 13 °F
 Daily range M
 Relative humidity 50 %
 Moisture difference 30 gr/lb

Heating Summary

Structure 9617 Btuh
 Ducts 0 Btuh
 Central vent (SER=50% 5 cfm) 182 Btuh
 Energy recovery
 Humidification 0 Btuh
 Piping 0 Btuh
 Equipment load 9799 Btuh

Sensible Cooling Equipment Load Sizing

Structure 4075 Btuh
 Ducts 0 Btuh
 Central vent (SER=50% 5 cfm) 39 Btuh
 Energy recovery
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.93
 Equipment sensible load 3822 Btuh

Infiltration

Method Blower door
 Shielding / stories 3 (partial) / 2
 Pressure / AVF 50 Pa / 2000 cfm

Latent Cooling Equipment Load Sizing

Structure 922 Btuh
 Ducts 0 Btuh
 Central vent (LER=50% 5 cfm) 56 Btuh
 Energy recovery
 Equipment latent load 978 Btuh

| | Heating | Cooling |
|---------------------------|---------|---------|
| Area (ft ²) | 294 | 294 |
| Volume (ft ³) | 2649 | 2649 |
| Air changes/hour | 1.66 | 0.80 |
| Equiv. AVF (cfm) | 73 | 35 |

Equipment Total Load (Sen+Lat) 4800 Btuh
 Req. total capacity at 0.79 SHR 0.4 ton

Heating Equipment Summary

Make Mitsubishi Electric
 Trade Mitsubishi Electric
 Model MUFZ-KJ09NAHZ
 AHRI ref

Efficiency 13 HSPF
 Heating input
 Heating output 11000 Btuh @ 47°F
 Temperature rise 37 °F
 Actual air flow 272 cfm
 Air flow factor 0.028 cfm/Btuh
 Static pressure 0 in H2O
 Space thermostat
 Capacity balance point = 13 °F

Cooling Equipment Summary

Make Mitsubishi Electric
 Trade Mitsubishi Electric
 Cond MUFZ-KJ09NAHZ
 Coil MFZ-KJ09NA
 AHRI ref

Efficiency 21.8 EER, 28 SEER
 Sensible cooling 7110 Btuh
 Latent cooling 1890 Btuh
 Total cooling 9000 Btuh
 Actual air flow 272 cfm
 Air flow factor 0.067 cfm/Btuh
 Static pressure 0 in H2O
 Load sensible heat ratio 0.81

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





Project Summary
2AH1 2nd Floor
Energy Vanguard

Job: 21001 Rondeau
 Date: Jan 29, 2020
 By: [Redacted]
 Plan: 21001 Rev0

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Project Information

For: Will Rondeau
 [Redacted]

Notes:

Design Information

Weather: Norwood Memorial, MA, US

Winter Design Conditions

Outside db 9 °F
 Inside db 70 °F
 Design TD 61 °F

Summer Design Conditions

Outside db 88 °F
 Inside db 75 °F
 Design TD 13 °F
 Daily range M
 Relative humidity 50 %
 Moisture difference 30 gr/lb

Heating Summary

Structure 11785 Btuh
 Ducts 0 Btuh
 Central vent (SER=50% 8 cfm) 256 Btuh
 Energy recovery
 Humidification 0 Btuh
 Piping 0 Btuh
 Equipment load 12040 Btuh

Sensible Cooling Equipment Load Sizing

Structure 4731 Btuh
 Ducts 0 Btuh
 Central vent (SER=50% 8 cfm) 54 Btuh
 Energy recovery
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.93
 Equipment sensible load 4446 Btuh

Infiltration

Method Blower door
 Shielding / stories 3 (partial) / 2
 Pressure / AVF 50 Pa / 2000 cfm

Latent Cooling Equipment Load Sizing

Structure 389 Btuh
 Ducts 0 Btuh
 Central vent (LER=50% 8 cfm) 78 Btuh
 Energy recovery
 Equipment latent load 467 Btuh

| | Heating | Cooling |
|---------------------------|---------|---------|
| Area (ft ²) | 514 | 514 |
| Volume (ft ³) | 4624 | 4624 |
| Air changes/hour | 0.51 | 0.25 |
| Equiv. AVF (cfm) | 39 | 19 |

Equipment Total Load (Sen+Lat) 4913 Btuh
 Req. total capacity at 0.79 SHR 0.5 ton

Heating Equipment Summary

Make Mitsubishi Electric
 Trade Mitsubishi Electric
 Model MUFZ-KJ09NAHZ
 AHRI ref

Efficiency 13 HSPF
 Heating input
 Heating output 11000 Btuh @ 47°F
 Temperature rise 37 °F
 Actual air flow 272 cfm
 Air flow factor 0.023 cfm/Btuh
 Static pressure 0 in H2O
 Space thermostat
 Capacity balance point = 19 °F

Cooling Equipment Summary

Make Mitsubishi Electric
 Trade Mitsubishi Electric
 Cond MUFZ-KJ09NAHZ
 Coil MFZ-KJ09NA
 AHRI ref

Efficiency 21.8 EER, 28 SEER
 Sensible cooling 7110 Btuh
 Latent cooling 1890 Btuh
 Total cooling 9000 Btuh
 Actual air flow 272 cfm
 Air flow factor 0.057 cfm/Btuh
 Static pressure 0 in H2O
 Load sensible heat ratio 0.91

Bold/italic values have been manually overridden

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