

### Project Information

For: KEEN/WILLIAMS ADDITION  
Columbia County, FL

Notes:

### Design Information

Weather: Jacksonville Intl, FL, US

#### Winter Design Conditions

Outside db 33 °F  
Inside db 70 °F  
Design TD 37 °F

#### Summer Design Conditions

Outside db 93 °F  
Inside db 75 °F  
Design TD 18 °F  
Daily range M  
Relative humidity 50 %  
Moisture difference 50 gr/lb

#### Heating Summary

Structure 9077 Btuh  
Ducts 1665 Btuh  
Central vent (0 cfm)  
(none) 0 Btuh  
Humidification 0 Btuh  
Piping 0 Btuh  
Equipment load 10742 Btuh

#### Sensible Cooling Equipment Load Sizing

Structure 11028 Btuh  
Ducts 2454 Btuh  
Central vent (0 cfm)  
(none) 0 Btuh  
Blower 0 Btuh  
Use manufacturer's data n  
Rate/swing multiplier 0.98  
Equipment sensible load 13171 Btuh

#### Infiltration

Method Simplified  
Construction quality Average  
Fireplaces 0

#### Latent Cooling Equipment Load Sizing

Structure 1505 Btuh  
Ducts 592 Btuh  
Central vent (0 cfm)  
(none) 0 Btuh  
Equipment latent load 2096 Btuh

|                  | Heating | Cooling |
|------------------|---------|---------|
| Area (ft²)       | 720     | 720     |
| Volume (ft³)     | 6120    | 6120    |
| Air changes/hour | 0.61    | 0.32    |
| Equiv. AVF (cfm) | 62      | 33      |

**Equipment Total Load (Sen+Lat)** 15268 Btuh  
Req. total capacity at 0.80 SHR 1.4 ton

#### Heating Equipment Summary

Make GREE ELECTRIC APPLIANCES INC. OF ZHUHAI  
Trade GREE  
Model LIVV18HP230V1AO  
AHRI ref 205093062

Efficiency 9 HSPF  
Heating input 18000 Btuh @ 47°F  
Heating output 28 °F  
Temperature rise 580 cfm  
Actual air flow 0.054 cfm/Btuh  
Air flow factor 0.35 in H2O  
Static pressure  
Space thermostat  
Capacity balance point = 22 °F

Backup:  
Input = 3 kW, Output = 9359 Btuh, 100 AFUE

#### Cooling Equipment Summary

Make GREE ELECTRIC APPLIANCES INC. OF ZHUHAI  
Trade GREE  
Cond LIVV18HP230V1AO  
Coil LIVV18HP230V1AH  
AHRI ref 205093062

Efficiency 8.5 EER, 16 SEER  
Sensible cooling 13920 Btuh  
Latent cooling 3480 Btuh  
Total cooling 17400 Btuh  
Actual air flow 580 cfm  
Air flow factor 0.043 cfm/Btuh  
Static pressure 0.35 in H2O  
Load sensible heat ratio 0.87

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

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Columbia County, FL

## Cooling Equipment

### Design Conditions

|                    |        |                    |       |      |                   |        |
|--------------------|--------|--------------------|-------|------|-------------------|--------|
| Outdoor design DB: | 92.7°F | Sensible gain:     | 13481 | Btuh | Entering coil DB: | 77.3°F |
| Outdoor design WB: | 76.9°F | Latent gain:       | 2096  | Btuh | Entering coil WB: | 63.6°F |
| Indoor design DB:  | 75.0°F | Total gain:        | 15578 | Btuh |                   |        |
| Indoor RH:         | 50%    | Estimated airflow: | 580   | cfm  |                   |        |

### Manufacturer's Performance Data at Actual Design Conditions

|                    |                     |        |                               |         |     |
|--------------------|---------------------|--------|-------------------------------|---------|-----|
| Equipment type:    | Split ASHP          |        |                               |         |     |
| Manufacturer:      | GREE ELECTRIC APPLI | Model: | LIV18HP230V1AO+LIV18HP230V1AH |         |     |
| Actual airflow:    | 580                 | cfm    |                               |         |     |
| Sensible capacity: | 13920               | Btuh   | 103%                          | of load |     |
| Latent capacity:   | 3480                | Btuh   | 166%                          | of load |     |
| Total capacity:    | 17400               | Btuh   | 112%                          | SHR:    | 80% |

## Heating Equipment

### Design Conditions

|                    |        |            |       |      |                   |        |
|--------------------|--------|------------|-------|------|-------------------|--------|
| Outdoor design DB: | 32.8°F | Heat loss: | 10742 | Btuh | Entering coil DB: | 68.9°F |
| Indoor design DB:  | 70.0°F |            |       |      |                   |        |

### Manufacturer's Performance Data at Actual Design Conditions

|                             |                     |        |                               |         |  |
|-----------------------------|---------------------|--------|-------------------------------|---------|--|
| Equipment type:             | Split ASHP          |        |                               |         |  |
| Manufacturer:               | GREE ELECTRIC APPLI | Model: | LIV18HP230V1AO+LIV18HP230V1AH |         |  |
| Actual airflow:             | 580                 | cfm    |                               |         |  |
| Output capacity:            | 18000               | Btuh   | 168%                          | of load |  |
| Supplemental heat required: | 0                   | Btuh   |                               |         |  |
| Capacity balance:           | 22                  | °F     |                               |         |  |
| Economic balance:           | -99                 | °F     |                               |         |  |

|                        |            |        |     |             |       |
|------------------------|------------|--------|-----|-------------|-------|
| Backup equipment type: | Elec strip |        |     |             |       |
| Manufacturer:          |            | Model: |     |             |       |
| Actual airflow:        | 580        | cfm    |     |             |       |
| Output capacity:       | 2.7        | kW     | 87% | Temp. rise: | 50 °F |

Meets all requirements of ACCA Manual S.