

# Equipment Sizing Code Review

## 1. Load Calculations - Manual J

- a. Software Vendor: AddTek / CarmelSoft / EnergyGauge / Avenir / Elitesoft / Wrightsoft / Other:  
\_\_\_\_\_ Manual J-8 Compliant? TRUE / FALSE
- b. Indoor Conditions (70°F Heating/75°F Cooling): TRUE / FALSE
- c. Outdoor Conditions Weather City: \_\_\_\_\_
  - i. Winter Dry-Bulb: \_\_\_\_\_ °F
  - ii. Summer Dry-Bulb: \_\_\_\_\_ °F
  - iii. Elevation: \_\_\_\_\_ °F
- d. Conditioned Area: \_\_\_\_\_ square feet
  - i. Area consistent with building file?: TRUE / FALSE
- e. Calculated Loads:
  - i. Heating: \_\_\_\_\_ btuh
  - ii. Cooling:
    1. Total: \_\_\_\_\_ btuh
    2. Sensible: \_\_\_\_\_ btuh
    3. Latent: \_\_\_\_\_ btuh
    4. SHR: \_\_\_\_\_ (Leaky .75 - .80 / Tight .80 - .92)
  - iii. Heating BTUH/s.f.: \_\_\_\_\_ btuh/s.f.
  - iv. Cooling area/nominal ton: \_\_\_\_\_ s.f./ton
- f. Orientation (i.e. front door faces): N / NE / E / SE / S / SW / W / NW
- g. Infiltration Poor / Loose / Average / Semi-tight / Tight
- h. Ducts:
  - i. Locations: Attic / Basement / Crawlspace / Conditioned / Other: \_\_\_\_\_
  - ii. Duct R-value: \_\_\_\_\_
- i. Internal Gains:
  - i. Number of people: \_\_\_\_\_ (# Bedrooms + 1)
  - ii. Other: \_\_\_\_\_ sensible \_\_\_\_\_ latent (1200/600 for average home)
- j. Glazing:
  - i. Any skylights: TRUE / FALSE
  - ii. Window Type (i.e. DBL-Hung Low-E): \_\_\_\_\_
  - iii. Has Insect screens: TRUE / FALSE
  - iv. Has blinds on openable windows: TRUE / FALSE
- k. Other:
  - i. High or vaulted ceilings: TRUE / FALSE

**2. Equipment Selection - Manual S**

- a. Method: OEM Document / OEM Calculator / Integrated Software / Other: \_\_\_\_\_
- b. Specifies capacity(ies) at local outdoor design temperature(s): TRUE / FALSE
- c. Heating Capacity: \_\_\_\_\_ btuh
- d. Cooling Capacity:
  - i. Total: \_\_\_\_\_ btuh
  - ii. Sensible: \_\_\_\_\_ btuh
  - iii. Latent: \_\_\_\_\_ btuh
  - iv. SHR: \_\_\_\_\_
- e. Heating Capacity Factor: \_\_\_\_\_ (1.0 to 1.4 with deviation to 2.0)
- f. Cooling Capacity Factor: \_\_\_\_\_ (.90 to 1.35<sup>1</sup>)

<b>General Cooling Capacity Factors</b>			
<i>Equipment Tested and Rated by AHRI</i>	Single Speed Compressors	Multi/Variable Speed Compressors	GWHP
Total Maximum sizing factor	1.15	1.20 (multi), 1.30 (variable)	1.25(single), 1.30(multi), 1.35(variable)
Latent	Minimum = 1.0 (may go to 1.50 or higher if needed to meet sensible minimum)		
Sensible	Minimum = 0.90		
<b>General Heating Capacity Factors<sup>2</sup></b>			
Minimum	1.0		
Maximum	1.4 (up to 2.0 allowed)		

<sup>1</sup> Depends on equipment type

<sup>2</sup> Sizing for Heat Pumps is based on Cooling Loads. Balance of heating must be provided by a secondary source