

EarthLinked[®] SYSTEM SIZING GUIDE AIR HEATING



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3. Locate the System Performance Data for **Air Heating** based on the following parameters:

- Local Earth Temperature: _____ °F (enter temperature from map)
- Earth Loop Configuration: _____ (V1, H1, etc. based upon available land area and geology of the earth at the site)

4.. The size of the system will be determined by the **heat output of the system at Design** from the appropriate Air Heating Performance Table selected based on steps 2 and 3 above. The initial selection of a system size (capacity) should have a heat output of at least 100% of the Design Heating Load in step 1. **Electric supplemental heat with a rating of at least 20% of the design heating load, in BTUH, is a required component of the system.**

Enter information below:

System Size	Heat Output @ Design (100% Load)	Design Heating Load
_____ Tons	_____ BTUH	_____ BTUH

Is Heating Output at least 100% Yes No

5. From the appropriate **Air Cooling** Performance Table determined by steps 2 and 3 the selected system size (in Tons), **enter the system size in Tons, DESIGN Total and DESIGN Sensible values below. Re-Enter the Total Cooling Load and Sensible Cooling Load values below.** They are the same as the values in step 1.

System Size	Design Cooling (100% Load)	Cooling Load
_____ Tons	Total: _____ BTUH	Total: _____ BTUH
	Sensible: _____ BTUH	Sensible: _____ BTUH

Check to see that the cooling outputs are 5% greater than the cooling loads.

Is DESIGN Total 5% greater than Total Cooling Load? YES NO

Is DESIGN Sensible 5% greater than Sensible Cooling Load? YES NO

Both Output values must be 5% greater than both Load values.

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6. Final system size is as follows:

System Size: _____ Tons

Compressor Unit Model: _____

Air Handler/Cased Coil Model: _____

Supplemental Electric Heat: _____ kW

Earth Loop Model: _____

Domestic Water Module Model: _____

Heat Recovery Module Model: _____

7. Balance Point

The balance point temperature for a heating system must be determined **if an outdoor thermostat is installed to initiate supplemental heat**. The outdoor thermostat set point is adjusted to be the balance point temperature.

For EarthLinked® R-410A systems two values must be known to determine balance point temperature:

- **Heating output capacity @ design point (100% Load)**, determined in 4.
- **Heating output capacity @ 5% Load**, determined by the procedure that follows.

Heating output capacity @ 5% Load is the MAXIMUM heating capacity taken from the performance table for the specific system selected.

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With the above information and the building heating load determined by the Manual J method, access the Earthlinked Technologies website at www.earthlinked.com to access the **Balance Point Calculator**.

Under the heading “**Dealer Info**”, scroll down and click on “**Dealers Login only**”.

Go to “**Dealer Resource Center**” and scroll down to “**Forms and Policies**”.

Click on “**Balance Point Calculator**” and you will see the following:

BALANCE POINT CALCULATOR
(Applies only to Heating—do not use for Cooling)

enter data

BUILDING LOAD AT DESIGN TEMP IN BTUH =

OUTDOOR DESIGN TEMP =

EQUIPMENT CAPACITY @ 5% LOAD VALUE =

EQUIPMENT CAPACITY @ 100% LOAD =

results

BALANCE POINT CAPACITY =

BALANCE POINT TEMPERATURE = 70°F INDOOR DESIGN (fixed)

Under “**ENTER DATA**”, input the values for Building Design Heating Load (from 1.); Outdoor Winter Design Temperature (from 1.); Heating Output (Equipment) Capacity @ 5% Load (from 7.above); and Heating Output (Equipment) Capacity@ Design (100% Load) (from 4.).

The resulting balance point capacity and temperature can be read under “**RESULTS**”.

Balance Point Capacity = _____ BTUH

Balance Point Temperature = _____ °F