



Air Source Heat Pump Specification and Use of Balance Point

In the last month, the PTCS Program learned that there may be some confusion about the PTCS Air Source Heat Pump Installation Specification and the use of the Balance Point, which is part of sizing.

For context, the PTCS Air Source Heat Pump Specification focuses on several key elements of a quality installation above average installation practice to achieve energy efficiency savings. These key elements include features of commissioning, controls, and proper sizing. Some elements have very precise requirements to be effective, such as setting the strip heat lockout to 35F or lower to prevent the strip heat from coming on too soon. Other elements, like the use of the balance point, that assist in sizing the heat pump for optimal, efficient performance have an acceptable temperature range to work within.

The PTCS Heat Pump Installation Specification language states, “[t]he heat pump system shall be sized, rounding up or down to the nearest 6000 Btu/hr capacity at AHRI rating conditions, *using* a balance point of 30°F or less”(emphasis added). It does not specifically *require* that the balance point be 30°F or less. The acceptable range includes temperatures less than 30°F or up to 35°F to meet the basis for energy savings.

Why this range is acceptable: The calculation of the balance point requires inputs about the building UA of the home (envelope, tightness, etc.), the size of the home and more. With all of these variables to consider, the savings assumptions support a balance point in a range of less than 30°F and up to 35°F for a quality, energy-efficient installation of a heat pump.

If you have any questions, please contact the Res HVAC Program at 800-941-3867 or resHVAC@bpa.gov.