

Frequently Asked Questions

When does an air source heat pump go into defrost?

Background

Periodically, the air source heat pump ASHP needs to initiate a defrost cycle to remove accumulated frost from the outside coil when operating in heating mode. The saturated suction temperature determines when defrost will initiate and terminate. See below for further details.

Note: If defrost is initiated 3 times within an hour, the air source heat pump's heating mode will be locked out. Other things can also lead to heat pump heating being locked out (see the controls IOM for further information).

Initiation

One of the following must be true for a defrost cycle to initiate:

- a. The saturated suction temperature is less than -15°F.
- b. The saturated suction temperature is less than ambient conditions (temp/dewpoint) minus an offset (35°F/25°F).
 - i. Example: If the outside air temperature is 50°F, and the temperature offset is 35°F, then anytime the saturated suction temperature is less than 15°F, the unit will initiate defrost.

Termination

1. The defrost cycle is terminated when one of the following occurs:
 - a. The saturated discharge temperatures of all refrigerant circuits are greater than the cancel defrost set point (80°F).
 - b. The max defrost time (5 min) has been exceeded.