LOW AMBIENT COOLING AND HEATING OPERATIONS

Pioneer® Split Systems can be utilized for use for specific applications, that require continuous or even year around cooling , under low outdoor ambient conditions. These can include; walk in wine cellars, indoor green houses, computer rooms / data centers, etc.

Pioneer® Split Systems' operational limits for cooling and heating modes are given below:

a. Standard 13 SEER Non Inverter Split Systems (WYD Series) can be used in COOLING mode, down to **+70** °F outdoor ambient temperatures as shipped. They can be used in HEATING Mode, down to **+15** °F outdoor ambient temperatures. A **LOW AMBIENT COOLING KIT ACCESSORY** is available (sold Separately), to use on the WYD series systems, to allow their use for Low Ambient Cooling operations down to **0** °F Ambient Temperatures. Click on this LINK to purchase the kit online. Additionally, for the field wiring and setup instructions, click HERE.

b. All Pioneer® INVERTER Split Systems (WYE, WYB+, WYB++, WYQ++ Series Single Zone and YN Series Multi Zone), are equipped with variable speed compressors and fan motors that self regulate, based on the Outdoor Ambient Conditions Automatically. Inverter Split Systems can be used in COOLING mode, down to **+32** °F outdoor ambient temperatures as shipped. They can be used in HEATING Mode, down to **+5** °F outdoor ambient temperatures. It is not possible to add the accessory Low Ambient Cooling Kit referenced above, due to integration complications with the existing sophisticated electronics.

c. For ALL Pioneer® Split Systems, the temperature setting range for the Indoor Conditions is as follows and the selected setting temperature will be maintained automatically by the system:

   - For Cooling Mode: Minimum: 62 °F   ~   Maximum: 86 °F
   - For Heating Mode: Minimum: 62 °F   ~   Maximum: 86 °F

   As the Pioneer® Split Systems are designed mainly for comfort cooling or heating, they may not be suitable to use for certain specific purposes, where the indoor setting temperatures are desired to be outside the range given above.

d. For calculating the cooling loads for use in the referenced special applications, such as data centers, etc., use the following formula:

   - Add the electrical consumption in WATTS, used by all equipment in the room (computers, lights and all other electrical devices) and multiply the total wattage by 3.412 to calculate the BTUs needed to balance the electrical heat load. (For example, 5,000 watt load requires 17,060 BTUs.)

   - Add 30 BTUs per square foot of space for the room's own heat load.

   - Select the equipment based on the total BTUs calculated for the equipment and the room together.