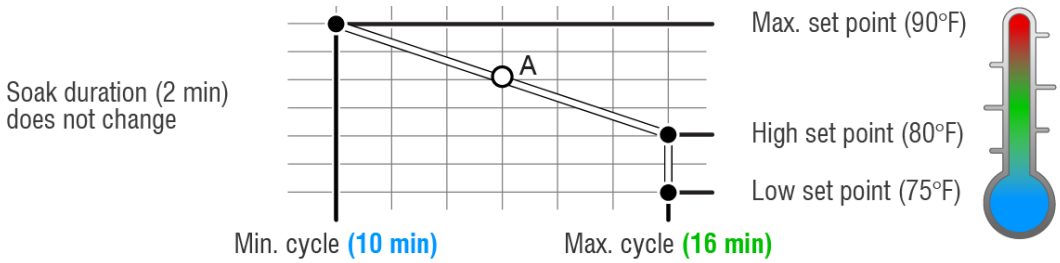
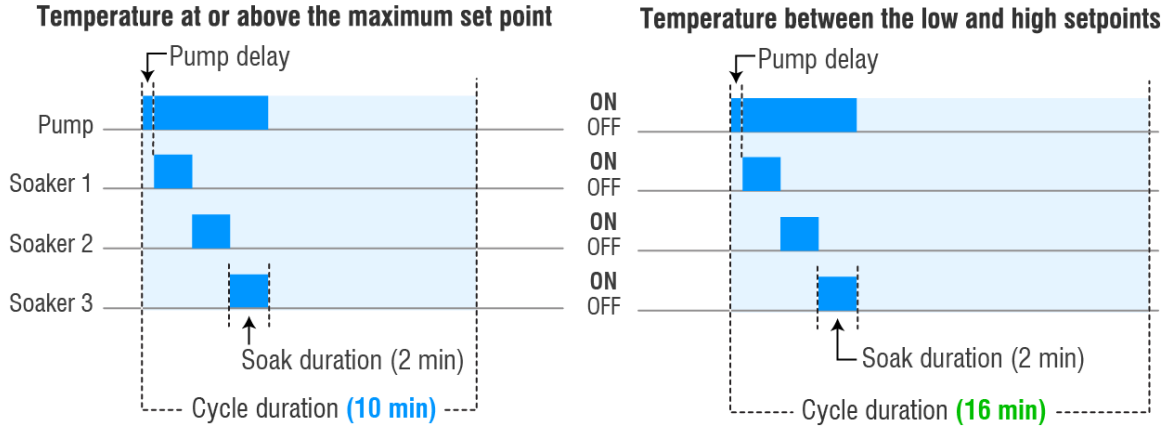
APP-016: Understanding evaporative cooling modes

Phason Controls offers three modes of evaporative cooling in its controllers: Soaking Mode, Misting/Fogging Mode, and Smart Mode. Read on to find out how these work and which controls offer them.

Soaking Mode

Soaking Mode is available in the AutoFlex Connect (all models), Touch Series, and ECC-1 controllers. In soaking mode, the cycle duration decreases as the temperature; soaking duration stays the same. Here is an example using temperature.

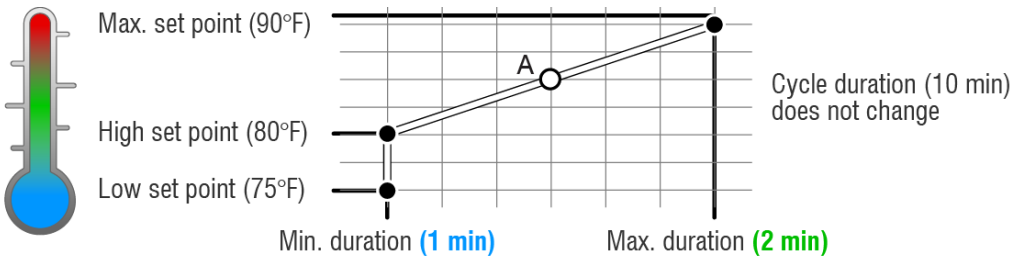


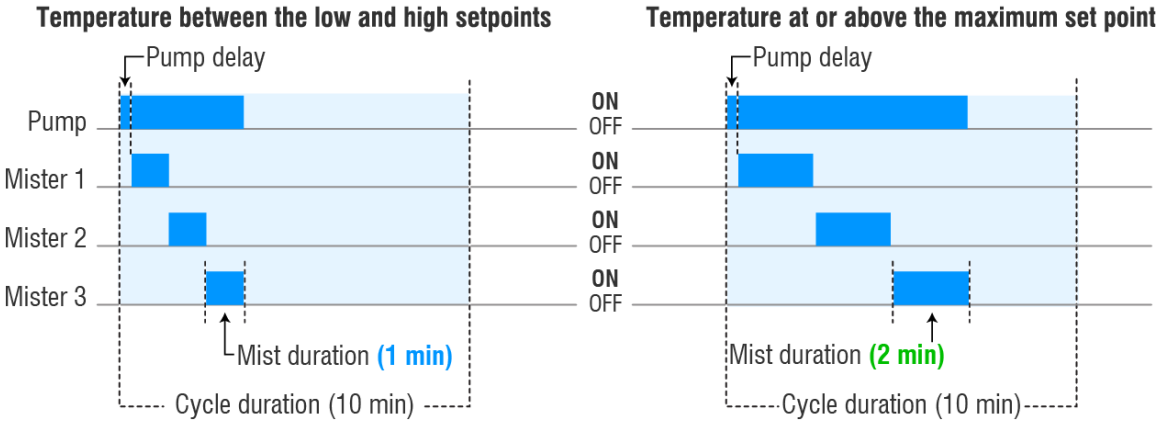


- When the temperature is below the low set point, no cooling cycle occurs.
- When the temperature is between the low and high set points, a cooling cycle occurs and the cycle duration is at the maximum. In our example, this is 16 minutes.
- When the temperature is between the high and maximum set points, the cycle duration is somewhere between the minimum and maximum durations. See point A on the graph.
- When the temperature is above the maximum set point, the cycle duration is at minimum.

Misting/Fogging Mode

Misting/Fogging Mode is available in the **AutoFlex Connect** (all models), **Touch Series**, and **ECC-1** controllers. In misting/fogging mode, the misting duration increases as the temperature or THI increases; cycle duration stays the same. Here is an example using temperature.

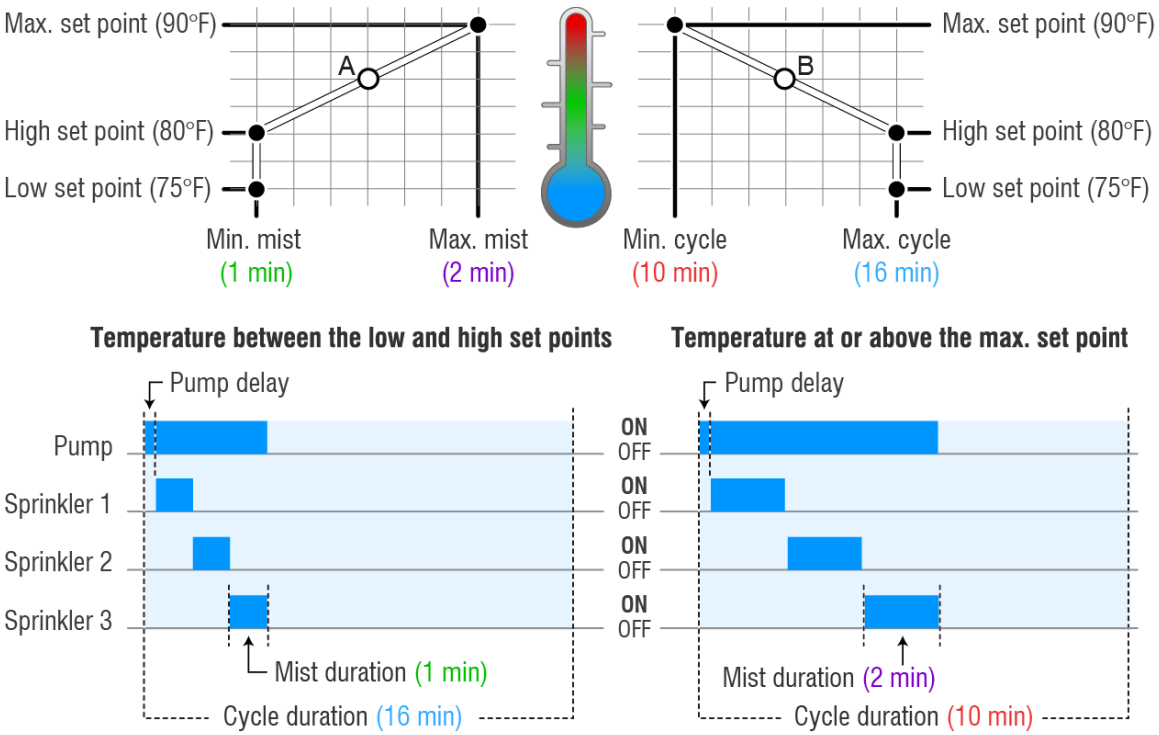




- When the temperature is below the low set point, no cooling cycle occurs.
- When the temperature is between the low and high set points, a cooling cycle occurs and the mist duration is at the minimum. In our example, this is 1 minute.
- When the temperature is between the high and maximum set points, the mist duration is somewhere between the minimum and maximum durations. See point A on the graph.
- When the temperature is above the maximum set point, the mist duration is at maximum. In our example, this is 2 minutes.

Smart Mode

Smart Mode is available in **AutoFlex Connect** (all models) and **Touch Series** controllers. In Smart Mode, the misting and cycle durations change. As the temperature rises, the misting duration gets longer and the cycle duration gets shorter. Here's an example using temperature.



- When the temperature is below the low set point, no cooling cycle occurs.
- When the temperature is between the low and high set points, a cooling cycle occurs using the minimum misting duration and maximum cycle duration.
- When the temperature is between the high and maximum set points, the mist and cycle durations are between their minimum and maximum durations. See points A and B on the graph.
- When the temperature is above the maximum set point, the mist duration is at maximum (longest) and the cycle duration is at minimum (shortest).