

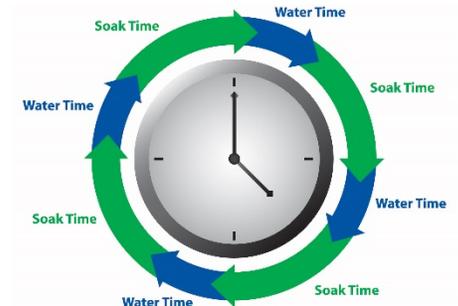
Understanding the Benefits of Soak Cycling

While it might seem obvious, it bears repeating that irrigation water must reach the root zone in order to be available to your plant material. In order to meet this requirement, irrigators typically consider the output of the heads and set the zone run times to apply the necessary amount of water.

However, even perfectly designed irrigation systems typically put down more water during a cycle than the average soil can absorb. As a result, the excess water runs off to the lowest point, leaving some areas of the landscape, or even the entire irrigated landscape, under watered.

Additionally, when excess water is left standing on the landscape, it evaporates fairly quickly, especially in the heat of the summer months, further reducing irrigation efficiency.

One way to eliminate runoff and standing water while still applying the required amount of water is to use soak cycling to break the total run time for a zone into shorter water “cycles” (timed water applications) with “soak” periods in between to allow time for water to soak into the soil before applying more water.



Baseline Irrigation controllers offer the most advanced tools for implementing soak cycling in an irrigation system.

The Benefits of Soak Cycling

- **Promotes deep watering and reduces evaporation**

Soak cycling applies water slowly and gives that water time to be absorbed. This method promotes effective watering by allowing the water to be distributed deeper in the soil profile. When the majority of the applied water is absorbed into the soil, evaporation will be minimized.

- **Prevents runoff on slopes**

Soak cycling is especially useful for watering a slope. By setting cycle times as short as one or two minutes, you can prevent runoff. Use as many cycles as necessary to apply the required amount of water.

How to Configure Soak Cycles

Properly setting soak and cycle times will dramatically improve water penetration and watering efficiency. If you do not know what the soak and cycle time settings should be for your specific site, Baseline recommends that you break the total water time for any zone into at least 3 cycles, and then configure the soak time between cycles to be at least twice the length of the cycle time. This will give you a good starting point.

Another easy way to determine a good cycle time is to turn on a zone and watch for the first signs of standing water or runoff. Set the cycle time to be no more than this amount of time. Watch to see how long it takes for the standing water to soak into the soil, and then use this amount of time as the soak time setting.

Understanding the Benefits of Soak Cycling

To understand how soak cycles work, consider the settings in the following example:

Total Water Time = 60 minutes
Cycle Time = 20 minutes
Soak Time = 40 minutes

In this scenario, the system waters for 20 minutes, and then it turns off and allows that water to soak in for 40 minutes. The system repeats this cycle 3 times to complete the total of 60 minutes set in the **Total Water Time** field.

TIP: The BaseStation 3200 controller will calculate the cycle time and soak time settings for you. When you are configuring the zone settings, press the Next button to move to the minutes placeholder in the Soak Time field, and then press the Back button. The controller divides the time in the Water Time field by 3. This value is used for the cycle time and the default soak time is double the cycle time.

Baseline's Intelligent Soak Cycles™

Baseline's irrigation controllers have the Intelligent Soak Cycle™ feature that uses intelligent watering algorithms to apply cycles in the optimal order to maximize water penetration and minimize evaporation loss. Zones that have completed their soak cycles are prioritized higher than zones that are still waiting to water so the first zones to start watering will be the first to complete.

The traditional soak cycling that is implemented on most irrigation controllers ignores soak time settings while the program waters each zone for the allotted time. For example, a program has 10 zones. The runtime is 30 minutes with 3 soak cycles. You set the soak time for 20 minutes. The first zone waters for 10 minutes and then each successive zone waters for 10 minutes. By the time all 10 zones have watered, zone 1 will have been soaking for approximately 100 minutes.

With Baseline's Intelligent Soak Cycles, the controller checks after each zone has run to determine whether any previous zones are done soaking. If a soak time is finished, the controller waters the previous zone again. The Baseline controller uses the Intelligent Soak Cycle feature to efficiently manage the watering process by watering a zone again as soon as its soak time has completed instead of waiting until each successive zone has finished watering.