

Baseline Solutions for Keeping a Pond or Cistern Full

When water from a pond or a cistern is available for irrigation, a Baseline controller can be used to automate many of the potentially complex functions required to operate this type of water supply – including keeping the pond or cistern full. To ensure that this water source works the way you expect it to, consider the questions in this high-level document, and then review the references to find out how to manage your specific situation with Baseline irrigation controllers and accessories.

Filling the Pond, Cistern, or Water Feature

- ◇ Will you be irrigating from the pond or cistern? Refer to the following document to make the best use of this supplemental water source: [Baseline Solutions for Irrigating from a Pond or Cistern](#)
- ◇ What water source (or sources) is used to fill the pond, cistern, or water feature?
- ◇ Is the water source reliable or are you depending solely on rain events? Refer to our overview of rainwater harvesting in the following document: [Rainwater Harvesting and Use](#)
- ◇ What is the flow rate for the water source and how long does it take to fill the pond, cistern, or water feature from a depleted level?
- ◇ If you are irrigating from the pond or cistern, is the fill rate equal to or greater than the depletion rate? If the depletion rate exceeds the fill rate, you can pause your irrigation programs while the reservoir refills to an acceptable level. Refer to the following document for the BaseStation 3200 irrigation controller: [Pausing Irrigation to Allow a Pond or Cistern to Refill](#)

- ◇ If the external water supply used to refill the pond, cistern, or water feature is the same water supply that is used by the rest of your irrigation system, is there sufficient flow to fill the pond, cistern, or water feature while other zones are watering?

Solution

With one or more flow devices, Baseline's BaseStation irrigation controllers have the ability to do a learn flow cycle to determine the flow for zones. You can run the learn flow cycle either by all zones or for individual zones. When you schedule a learn flow cycle, it only runs one time.

For specific instructions, refer to the information about learning flow in your controller's User Manual.

Depending on the amount of water available from your water source and the electrical limits, your system might be able to operate more than one zone at a time. You can configure Baseline's BaseStation irrigation controllers for a maximum number of zones that can run at one time for each program. You can also configure the maximum number of zones that can run at one time for all programs.

For specific instructions, refer to the topic on configuring the number of zones that can run at one time in your controller's User Manual.

- ◇ If the pond, cistern, or water feature has an external water supply, do you want the controller to monitor the quantity of water in the pond, cistern, or water feature and automatically refill when it drops to a specific level?

Solution

You can use a Baseline biSensor to monitor the water level in the pond or cistern and then configure a Start Condition to turn on a valve to refill the pond or cistern when the water reaches the specified level. Refer to the following documents:

[BaseStation 3200 – Keeping a Pond or Cistern Full with a Start Condition](#)

[BaseStation 1000 – Keeping a Pond or Cistern Full with a Start Condition](#)

Other Variables to Consider

- ◇ Which device are you going use to monitor the water level in the pond or cistern: a float switch or a moisture sensor?

Solution

If you want to monitor the water level with a float switch, you can use any float that is capable of opening or closing contacts in conjunction with a BL-5402 event biCoder. However, consider that a moisture sensor has no moving parts and is often easier to mount and conceal from sight and does not require an additional biCoder.

- ◇ Is the monitoring device connected with conventional wire or with two-wire?

Solution

You can connect a moisture sensor through conventional valve wires using a BL-5200 powered biCoder. While this solution can sometimes save some effort during installation, it's important to understand that a powered biCoder reports data every 3-6 minutes. This time factor affects how quickly the controller will shut down watering after a condition is detected.

On the other hand, a moisture sensor connected with two-wire is read every minute, which means that the controller can usually respond within 2 minutes. This timing allows the controller to respond more quickly than it would over conventional wire.

- ◇ Do you have a flow device and/or a master valve?

Solution

If you are using a flow meter to run multiple zones based on zone GPM and total available system GPM, the same flow meter will also manage flow when the pond or cistern is being filled. Depending on the amount of flow available, the system might need to shut down irrigation to accommodate a fill process.

If your system has a master valve, you can program the controller to open the correct fill valve/pump start and open the proper master valve to allow access to the water supply.