The High Cost of High Pressure

Check and Reduce Your Water Pressure for Optimal Irrigation Efficiency

High pressure can cause misting, reducing the amount of water delivered to your plants.

Is the water pressure in your landscape too high? Water pressure from the City's water main often must be reduced on your property to properly run your irrigation system. Too much pressure can make sprinklers work inefficiently and cause misting, reduced water coverage, dry spots in your landscape, and lead to early failure of valves and pipes. For many homes, your irrigation water pressure is far higher than the manufacturers' recommendations because the irrigation system is connected directly to your house's water mainline, which receives high pressure water from the street- usually at least 80 PSI. While your house has a metal "pressure regulator" to protect indoor fixtures from high pressure, most irrigation systems do not.

How to Check Your Irrigation System Pressure: To measure the water pressure coming into your irrigation system, simply attach a pressure gauge directly to the hose bib that is closest to your water meter; pressure gauges can be found at your local hardware store. If your system pressure is more than 15 PSI (pounds per square inch) over the recommended irrigation operating pressure, you should consider reducing it. Virtually all irrigation systems tested by our staff in the field that do not have one or more of the options presented below have pressure over the recommended values.

Cost and ease of installation are considerations to all options. While pressure regulation affects the efficiency of your system, it is just one part of maintaining a water wise irrigation system. For more information visit SantaBarbaraCA.gov/Irrigation.

See the following page for a range of pressure regulation options!

PRESSURE REGULATION TECHNIQUES

Reduce Pressure to the System: There are several ways to reduce the water pressure to your irrigation system. The first way reduces pressure to the entire system at once: install a single main-line pressure regulator for the whole irrigation system. Typically, this is installed on the irrigation system main-line just after it branches off from your home's main water line, which runs from the City's water meter to your home. Installing a pressure regulator will reduce pressure in the whole system at once, including all the lateral supply lines, valves and sprinklers, allowing the irrigation system to run at top efficiency and require less repairs. Typically, these main-line regulators are made of metal like brass, just like your home's dedicated pressure regulator, which protects indoor water fixtures from high pressure. Typically your home's regulator is set by a plumber to around 60 or 65 PSI; if your irrigation system includes spray irrigation, your irrigation mainline regulator should be set in the same neighborhood- approximately 55-60 PSI, in order to cap excessive pressure but still provide enough to serve all sprinklers. If your system is entirely drip, the regulator could be set even lower. Note that properties with substantial elevation changes may need somewhat higher pressure- check with a landscaper or irrigation specialist if you need more assistance.

Reduce Pressure to Each Zone: The second way to reduce irrigation water pressure is to use plastic 'inline pressure regulators' for each watering zone. These allow you to set each zone to a different pressure, which can be beneficial if you have different types of irrigation in your landscape. For example, spray heads can be adjusted to a lower pressure to reduce misting- typically the appropriate regulator is preset to about 40PSI- while rotor valves can be set to a higher pressure to achieve a greater watering radius. Drip zones sometimes already have a pressure-reducing filter or inline regulator installed, as they are typically sold as part of a 'drip valve kit'; to check, look for a plastic device downstream of the valve, often cylindrical, either rising up from or 'in line' with the water line, and often with a PSI rating printed on it. Drip valves should be regulated at 20PSI unless it is an excessively long line or climbs up substantial elevation, in which case a 30 PSI regulator could be warranted.

The ideal way to regulate pressure for your pop-up sprinklers is to replace your old sprinkler bodies with new ones that have a built-in pressure regulator, usually preset at 40 PSI. This ensures that water pressure is held at the ideal level at each individual sprinkler head, and is the preferred solution when you have sprinklers watering a substantial slope. You may recall from the site's training videos that your sprinkler has three main parts- the nozzle (which you are replacing through this free program), the riser which the nozzle threads directly onto, and the body, which the riser slides down into when the sprinklers are not in use. The staff at your local irrigation store, or your landscaper or plumbing professional, can help you understand or complete the replacement of all your sprinkler bodies with new, pressure-regulated bodies. Replacing these often just entails

digging out around them, unscrewing the old body, and screwing the new body onto the PVC pipe that is buried underground. Typically each of these new bodies is less than $8.

To Sum Up: The ideal option is to install both a main-line pressure regulator (to bring the pressure down substantially from street pressure and reduce fluctuations) capping the entire system at around 60-65 PSI, and in-line regulators at each valve, particularly drip (tailored for whichever irrigation type that valve serves). Using pressure-regulated sprinkler bodies is an equivalent and possibly even preferable alternative to using a valve inline regulator for your pop-up sprays as it allows each head to function at the perfect pressure, without providing too-low of pressure to other heads. This results in the greatest efficiency throughout the system, particularly for one with a variety of irrigation types, and is the lowest risk for leaks, failures and other maintenance issues. These steps extend the lifespan of your system, reduce maintenance costs, reduce water loss and can help lower your water usage and bills.

For more irrigation information or to schedule a free water checkup, call the Water Conservation Hotline at (805) 564-5460 or visit SantaBarbaraCA.gov/WaterWise.

Let's Save Together waterwise City of Santa Barbara