

Sprinkler to Drip Conversion

Why convert?

Drip irrigation is the most efficient means of watering everything in your garden. A drip system can deliver water directly to the plant's root zone. Sprinkler systems tend to waste some water through run-off on slopes and unintentional spraying of pathways, sidewalks and buildings. Drip irrigation converts a high-pressure stream to a slow emission of droplets that can be placed exactly where water is needed.

Water savings result due to the precision of drip irrigation. Unlike sprays and sprinklers, there is no evaporation loss, and the amount of water each plant receives can be tailored to suit its needs. As shrubs and perennials mature and grow, they often block the distribution pattern of sprinklers and prevent water from reaching the intended spots. With drip irrigation, water is delivered to the base of each plant, avoiding interference from leaves, branches and objects.

The virtues of drip extend beyond its water-efficiency. It is by far the best method of deep watering. If a plant grows on a slope, drip will maximize the amount of water available to its roots because the slow delivery of water won't run off the surface before having a chance to penetrate the soil. Moreover, sprinklers wet foliage, trunks, and flower petals, which can shorten the life and degrade the appearance of certain plants by encouraging rot.

Drip is also the preferred method of watering vegetable gardens. The original impetus for the use of drip irrigation in agriculture was not water savings but rather the greatly increased plant growth that it encourages. Drip decreases soil compaction, keeps soil moisture close to ideal levels and reduces weed growth between rows.

Converting out of necessity

In many cases, extra service can be squeezed from an existing sprinkler system as the galvanized pipes corrode

near the end of its useful life. While the corroded pipes can no longer effectively carry enough water to run the sprinkler system, there is often plenty of pressure and flow for a new drip system. Rust and iron particles in these kinds of retrofitted systems can pose a problem for the drip emitters, so replace or clean the drip system filters often.

Full drip conversion

One or more zones of an existing sprinkler system can be completely converted to a conventional drip system. The first step is to insert a filter and pressure regulator near the beginning of the system. The best place is often right after the control valve, and you can usually use a "Slip-Fix" expanding coupling to simplify the installation. The existing underground pipe continues to distribute the water, and saves a lot of digging.

Sprinkler heads are removed and replaced with parts, including a PVC (white plastic) fitting, and special compression adapters. Flexible, black polyethylene (PE) tubing, attached in place of the sprinkler heads, allows the use of standard drip irrigation devices to deliver water to your various plants. Add emitters, misters and micro sprays as needed. Remove and cap sprinkler heads not needed for drip. Using this method, one filter and pressure regulator can serve hundreds of emitters. Drip lines can be left on the surface, or covered by a layer of soil or mulch to become invisible.

Partial drip conversion

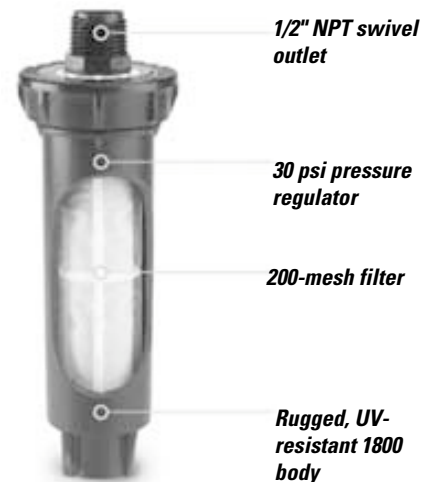
Alternatively, a filter and pressure regulator can be attached to a sprinkler riser and the drip system laid out from this point. The main drawback to this method is cost. If you wish to use several risers as take-off points for the drip system, you will need to purchase a filter and pressure regulator or retrofit body for each riser.

Sprinkler body retrofit

For partial conversion applications, Rain Bird provides a sprinkler body replacement, which contains a filter, and pressure regulator. Just unscrew the old sprinkler body and screw on the retrofit body.

Multi-outlet emitters

If you have a small area of shrubs watered by a few sprinkler heads, multi-outlet emitters can be screwed directly onto each sprinkler riser, without the need for a separate filter or pressure regulator. Water flows from the multi-outlet emitter from its four, six, or eight 1/4" PE tube connections, through the tubing and then to the plants. This works well with widely spaced shrubs, a generous number of existing sprinklers, and a heavy mulch to protect the small tubing. The advantage of this system is ease of installation and no need for a filter or pressure regulator. However, drawbacks arise when large densely planted areas are under consideration. The large quantity of small tubing can be an aesthetic nightmare as well as a maintenance problem.



Rain Bird® Sprinkler to Drip Retrofit Body



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