

## Choosing the right high-efficiency nozzle for turf applications

**S**PECIFYING, designing or upgrading an irrigation system can be a time-consuming process filled with many important decisions. The decisions made about even the smallest and deceptively simple components, like spray nozzles, can have a major effect on a system's performance and the landscape's appearance.

Nozzles are responsible for dispersing water to the landscape in different amounts and at varying distances of throw. The ideal nozzle for a particular application will deliver the right amount of water to the area of the landscape for which it's intended in an acceptable amount of time. A less-than-ideal nozzle may apply water unevenly, leaving some areas too dry and others too wet. Other nozzles may apply water too slowly, a problem for sites with short watering windows.

Choosing the right nozzle can also reduce water consumption. The wrong nozzle may apply water too quickly, creating run-off that flows into the gutter rather than soaking into the soil. Or, at sites with high water pressure, it may create a mist that simply blows away in the wind instead of landing on the turf.

Because of the significant impact that nozzles have on irrigation system efficiency, choosing the best nozzle for an application is crucial. However, it's one of the most commonly overlooked elements of irrigation system design.

### TYPES OF NOZZLES

Spray nozzles typically fall into one of three basic categories: fixed arc, rotary and variable arc. Today, irrigation system manufacturers are developing new high-efficiency versions of these nozzles with advanced features that overcome challenges like wind, compacted soil, high water pressure and elevation changes. They're designed to provide greater distribution uniformity and a lower scheduling coefficient than the nozzles of the past.

Fixed arc nozzles are available in a variety of models based upon throw distance (the maximum distance the nozzle can cover with water) and a fixed arc pattern. Most fixed arc nozzles come with arc patterns ranging from a maximum full-circle to the minimum one-third circle. Throw distances range from eight to 15 feet.

Rotary nozzles emit rotating streams of

water rather than a constant spray. Because their throw distances range from 13 to 24 feet, they're intended to cover larger areas than other fixed arc nozzles. Their greater throw distance makes it possible to use fewer nozzles to cover the same area. Like all fixed arc nozzles, rotary nozzles also come in fixed arc patterns of 45 degrees (one-third circle) to 360 degrees (full circle). These unique nozzles also feature a low precipitation rate and highly uniform distribution.

Rotary nozzles are often good choices for sloped areas and landscapes with compacted soil. Because of their low precipitation rate, (e.g., 0.6 inches per hour for Rain Bird rotary nozzles); these nozzles apply water slowly so that it can soak in rather than cause run-off and erosion.

Variable arc nozzles (VANs) are also available in various throw distances, but their arcs are adjustable from 0 to 360 degrees. As a result, VANs give landscape architects the freedom to design landscapes of almost any shape and size. Furthermore, because VANs can be adjusted to any angle, contractors can keep fewer nozzles on hand and specifiers can specify a single nozzle in multiple scenarios.

With all of the high-efficiency nozzles available today, choosing the right one can seem overwhelming. The best way to approach the process is by answering a series of questions about a site's particular needs and its inherent characteristics:

- How large is the area, or zone, to be watered?
- What is the zone's shape?
- What's the degree of slope?
- What soil type is present?
- Is the area frequently subject to high winds?
- How much water pressure is available?
- Is there a limited watering window?

A landscape's overall health and water efficiency depends greatly on the type of spray head, rotor or nozzle that you choose. By taking the time to carefully analyze your landscape and the various product choices available, you can design a system that provides efficient irrigation for years to come. ■

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### Sprinkler head converter

As part of Kochek's Water Movement line, this product converts a sprinkler head from any manufacturer into an instant hose adapter or quick coupler. The PVC braided hose rotates 360° supporting movement in any direction. The hoses are made of stainless steel reinforced clear poly braid. Designed to be used with Kochek products for hand watering localized dry spots, equipment washing, or any hose application where only a sprinkler head exists. This adapts the sprinkler head to create the hose connection you need. Comes with 1-in. Full Time Swivel aluminum connection. Available in 4 sizes Toro 730/830, Toro 750/850, Rain Bird 700 Series, and Rain Bird 900 Series.

**Kochek**



### Kifco Water-Reel

The Kifco® T180 Water-Reel® can irrigate a football field in an un-attended single pass and automatically shut down upon completion. It requires no in-field plumbing to install, maintain, winterize, cause injury or affect play. Typically the T180 is set-up and started after evening activities, runs unattended through the cooler evening hours and easily put away in the morning. The traveling irrigation pattern is more uniform than a solid set pattern and evening operation improves efficiencies. It is compact, simple, reliable and very portable and can be used on multiple fields or locations. The reel mounted booster pump option allows successful operation even with low water pressure.

### High-tech sprinkler control

The Vision House features a high tech sprinkler control system that monitors weather conditions daily and then automatically resets each sprinkler zone so that the correct amount of water is applied to lawns, trees and flower beds as needed. "Smart-Line adjusts the system 365 times a year and takes the guesswork out of landscape irrigation scheduling," says Brodie Bruner, VP for sales and marketing at Weathermatic. SmartLine promotes water conservation by preventing runoff and erosion and completely turns off the system during rain or a freeze. Additionally, it meets new water conservation standards mandated in many communities today. Smart-Line features two components: the SLW Series On-Site Weather Station and the SL1600 Modular Controller. The SLW monitors the weather, including high/low ambient air temperature and rain or freeze conditions, and is mounted to a fence.

**Weathermatic**