

Water Conservation Discussion
Gene Smith
Product Marketing Manager

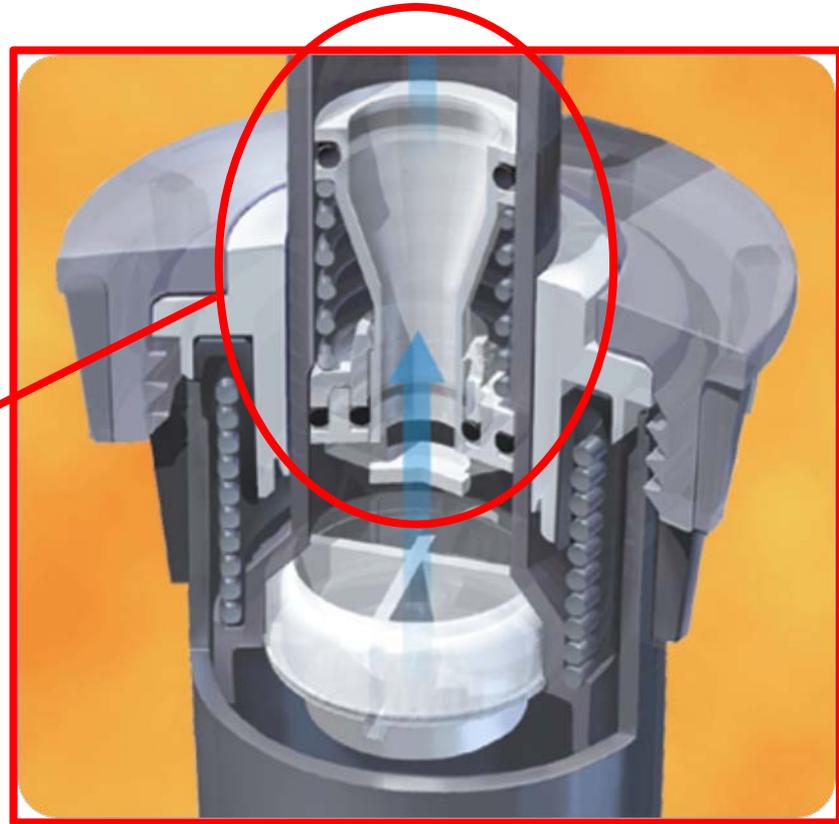


Water Saving Equipment Options

Hunter®

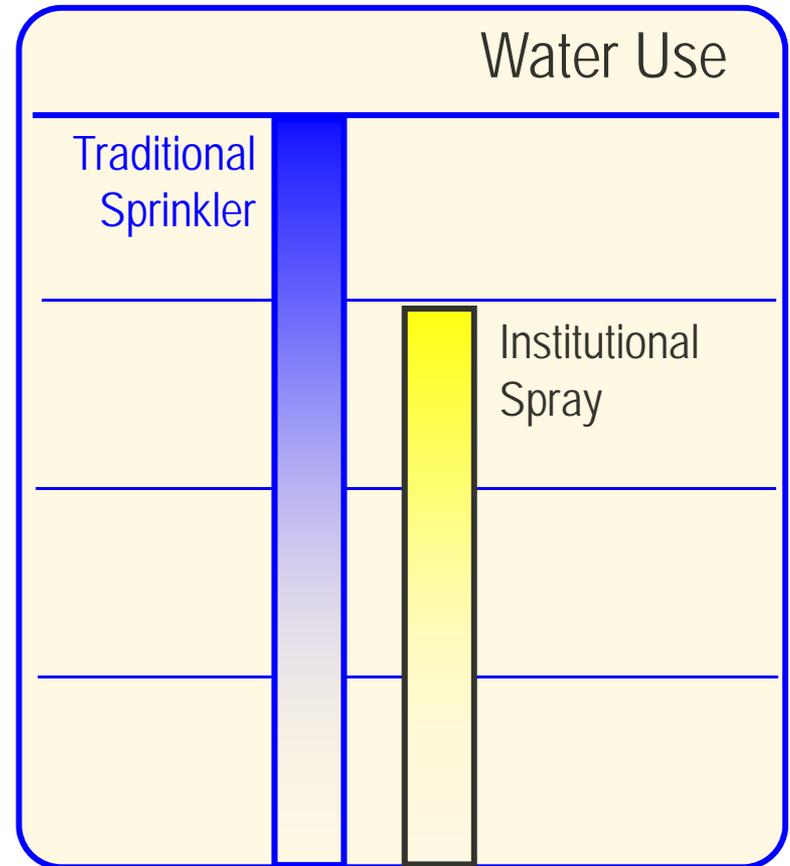
Water Saving Performance: Pressure Regulation

Standard in-stem pressure regulator eliminates misting and fogging – regulates nozzle output to a true 30 PSI optimum.



Water Saving Performance: Pressure Regulation

Saves up to 25% on
water use versus
traditional spray
sprinklers.



Water Saving Performance: Pressure Regulation



Non-Pressure Regulated



Pressure Regulated

Water Saving Performance: Pressure Regulation

Site with 50 Spray Heads:

38 15H, and 12 15Q = 82 GPM @ 30 psi

Nozzle Operating Pressure: 65 psi

Water Savings Multiplier: 0.47 (based on psi)

Estimated Water Savings = $.47 * 82$

= 39 GPM

Water time per day = 8 mins

Water Saving Performance: Pressure Regulation

Ave. Water days per wk: 5

Ave. Water weeks per yr: 45

$$\begin{aligned}\text{Yearly water savings} &= 8 * 5 * 45 * 39 \\ &= 70,200 \text{ gallons/yr}\end{aligned}$$

What does this calculation assume?

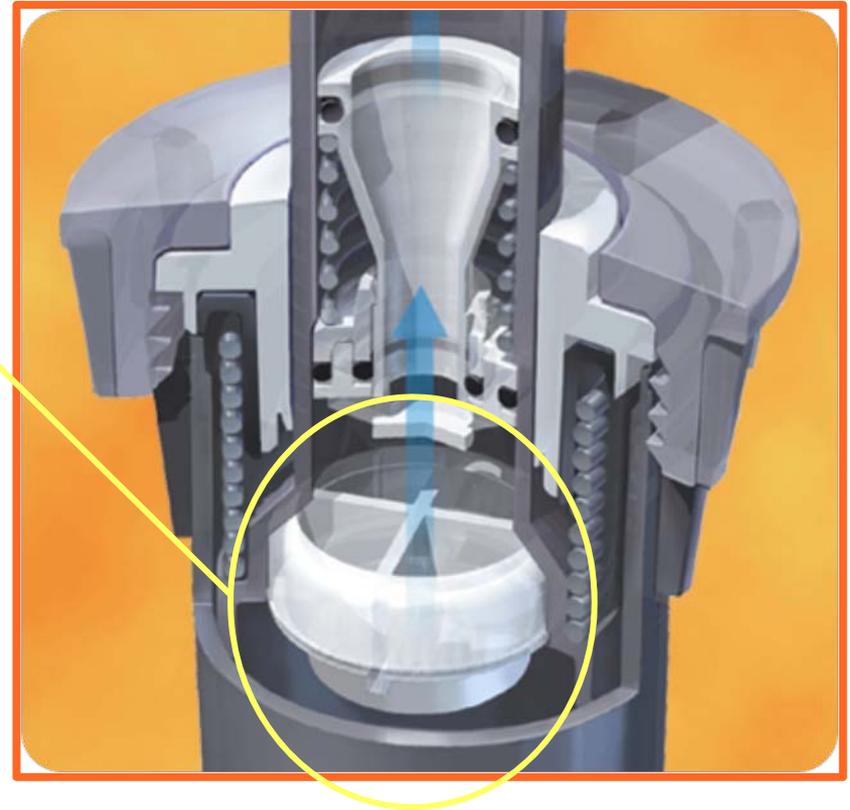
Water Saving Performance: Pressure Regulation

Regulator limits flow eliminating potential damage to surrounding landscape or structures.



Water Saving Performance: Check Valves

Check valve installed
to control low head
drainage.



Water Saving Performance: Check Valves



Water Saving Performance: Check Valves

Gallons per 100 feet

1" 4.08

1 1/2" 9.17

2" 16.31

2 1/2" 25.49

3" 36.71

4" 65.26

Water Saving Performance: Check Valves

- 1000' of 1" pipe
- 4 gallons per 100'
- 40 gallons drains per irrigation cycle
- 120 irrigation days per year

4800 gallons per year wasted



MP Rotator

Hunter®

Water Conserving Device Must...

- Reduce Run-Off
- Reduce Over-Spray
- Have a Precipitation Rate Below ½” per Hr./12 mm per Hr.
- Be Matched in Precipitation Rate
- Apply Water with High Uniformity
- Resist the Wind
- Be Durable to Last in the Most Harsh Conditions

MP Rotators Deliver in Each Area!

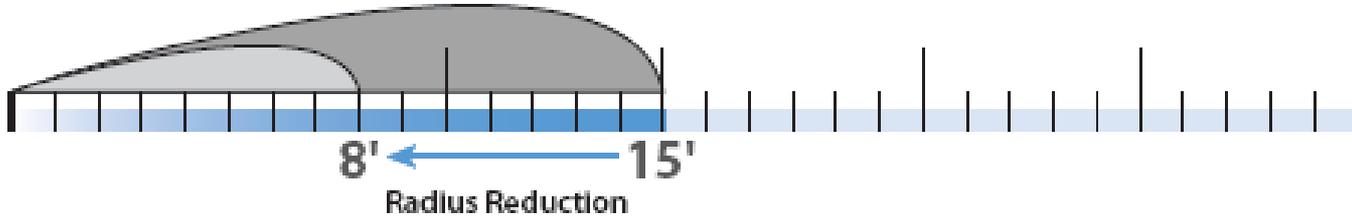


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MP1000



Stream Height at 30 PSI = 16"



90-210°

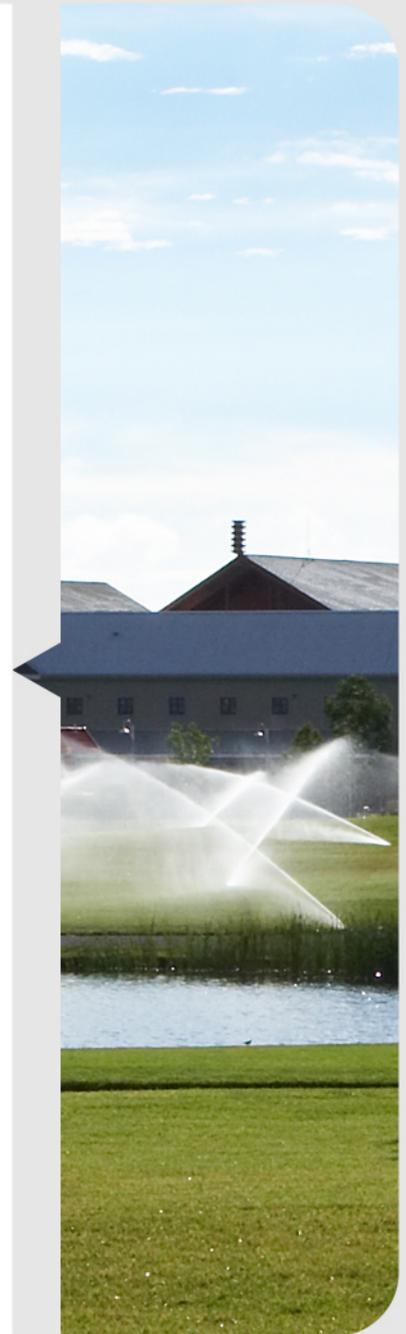


210-270°



360°

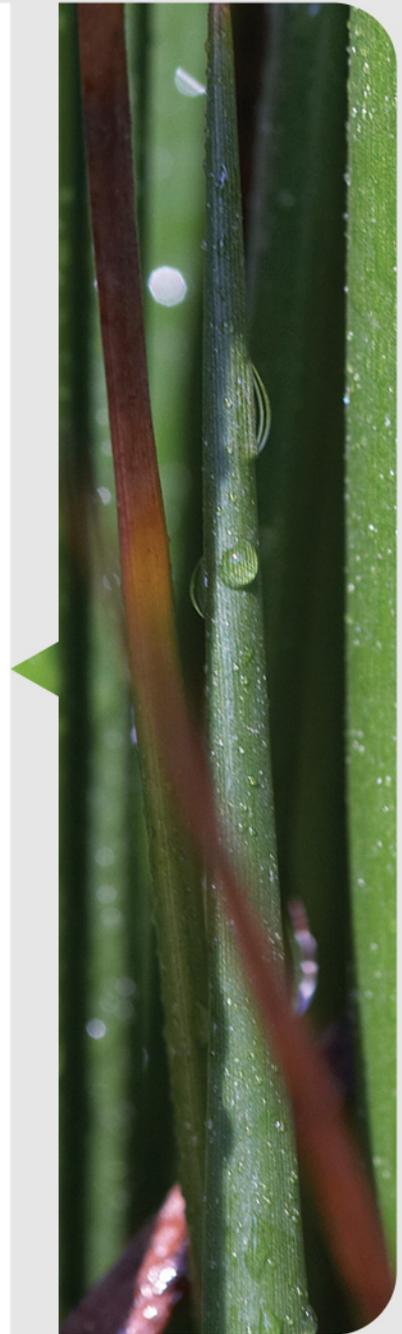
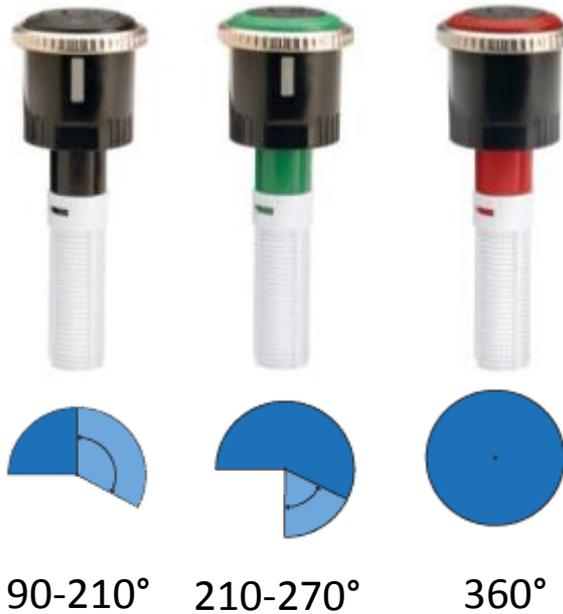
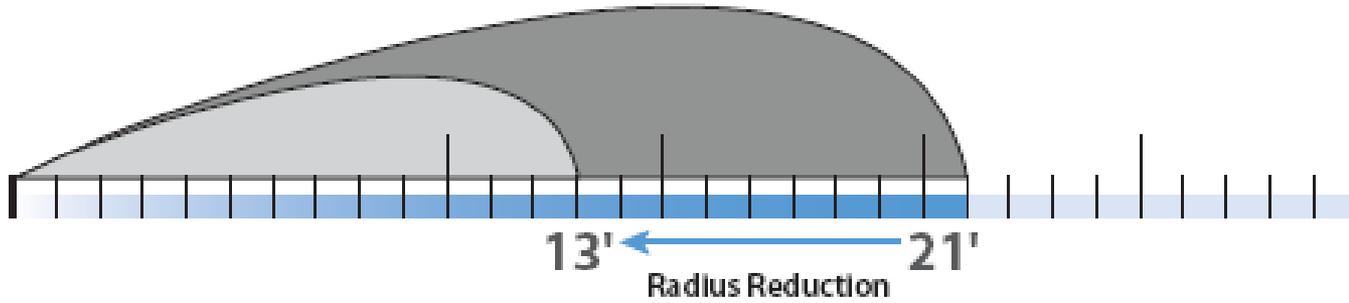
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MP2000

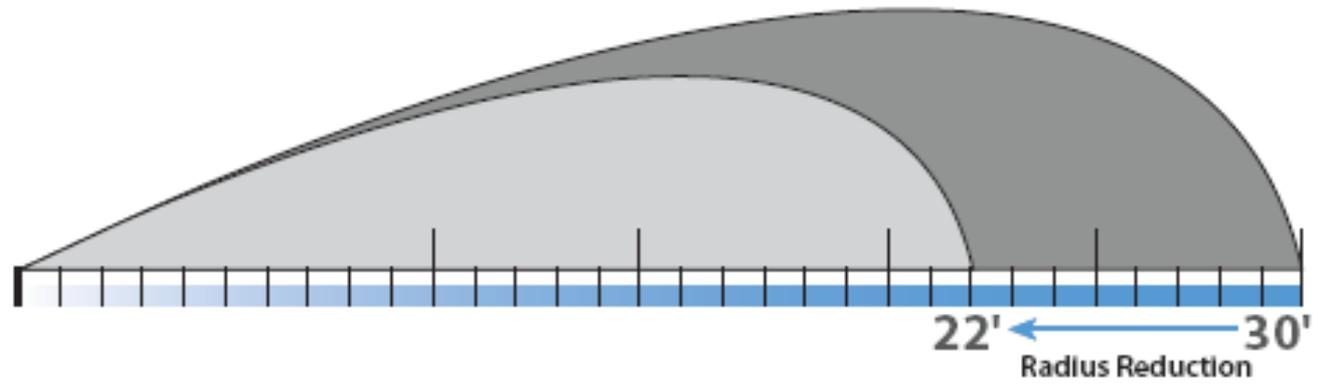


Stream Height at 30 PSI = 40"



MP3000

Stream Height at 30 PSI = 79'



90-210°



210-270°

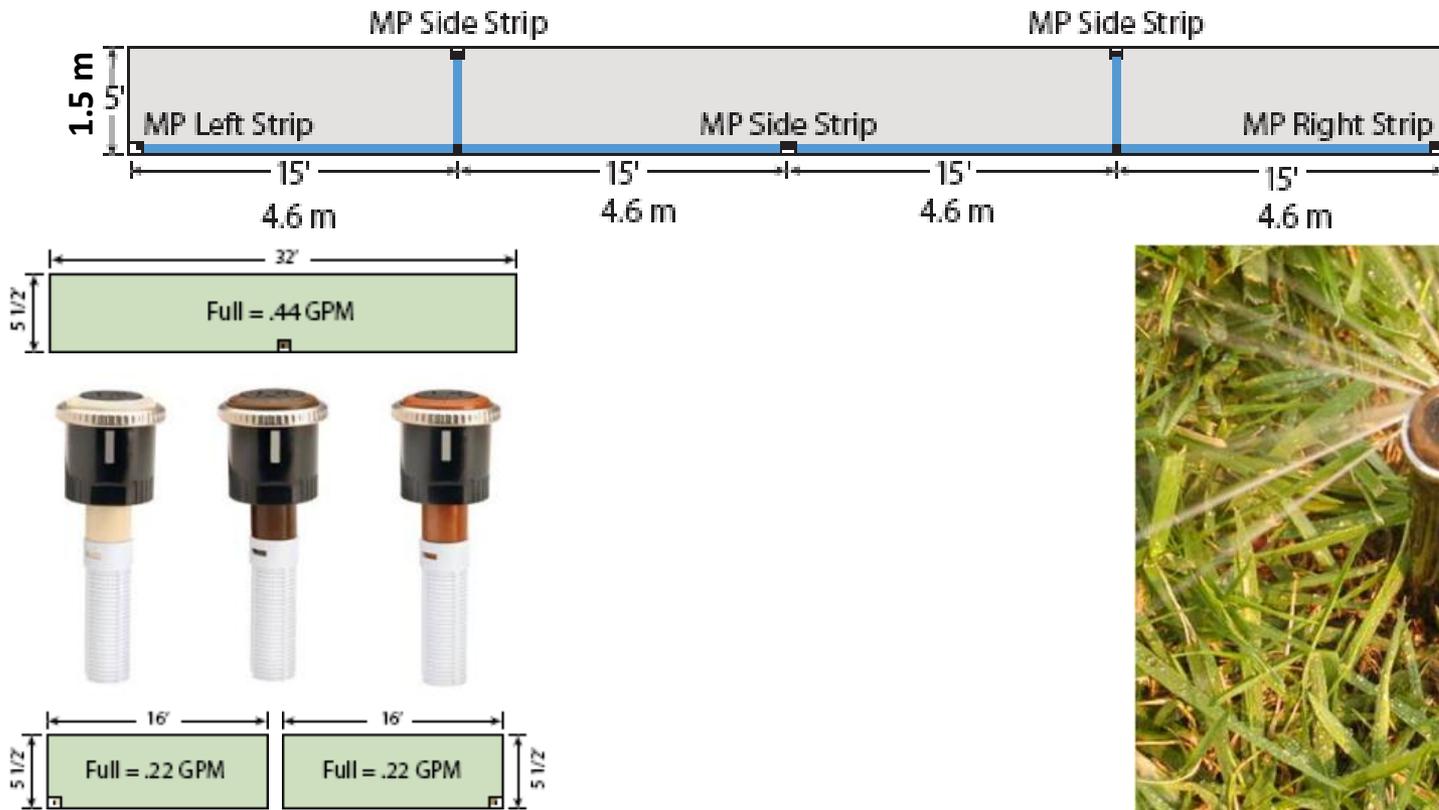


360°

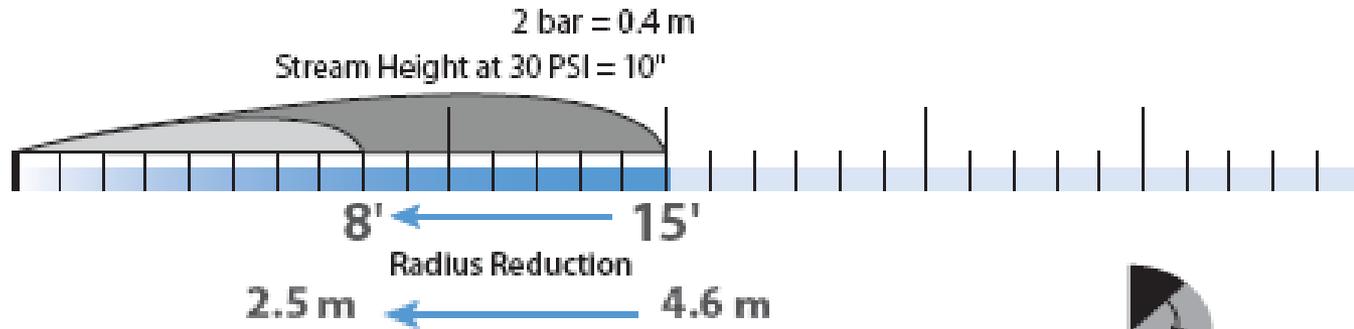
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MP Strip

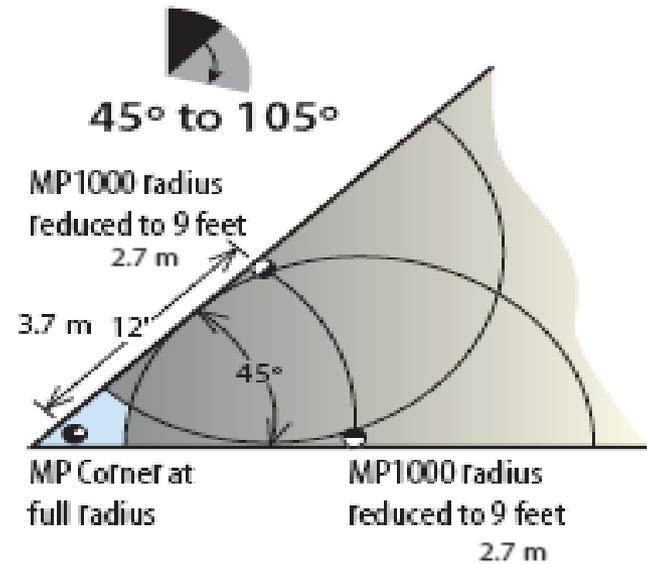
Example with triangular spacing.



MP Corner



MP Corner



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MP Rotator Water Savings



Water Pollution Control Lab - Portland, OR

MP Rotator Water Savings



Water Audit of Spray Zone

MP Rotator Water Savings



- Results:
 - Precipitation Rate: **2.84 in/hr**
 - Lower Quarter DU: **53%**

**Spray System
Uniformity at 53%!!**

Water Audit of Spray Zone

MP Rotator Water Savings



- Results:
 - Precipitation Rate: **0.55 in/hr**
 - Lower Quarter DU: **71%**

**Immediate 34%
Water Savings!!**

Water Audit of MP Rotator Zone

MP Rotator Water Savings

How Much Water is Actually Saved??

Spray System:		MP Rotator System:	
ET Demand:	0.5 in/wk	ET Demand:	0.5 in/wk
DU:	53%	DU:	71%
Irrigated Area:	800 sf	Irrigated Area:	800 sf
Vol Demand:	250 gal/wk	Vol Demand:	250 gal/wk
Irrigation:	472 gal/wk	Irrigation:	352 gal/wk
Water Savings per Week:	120 gallons		
Irrig. Weeks per Year:	35		
Annual Water Savings:	4185 gallons		

MP Rotator Advantages

- The Ultimate in Clog-Protection: **Hunter Patented Double-Pop Feature**



Case Study



DELL CORPORATE CAMPUS AUSTIN, TX



Case Study



DELL CORPORATE CAMPUS AUSTIN, TX



Case Study



DELL CORPORATE CAMPUS AUSTIN, TX

MP Rotator Advantage: Superior Wind Performance



50 PSI/3.5 Bar

Misting

Windrift

Runoff



50 PSI/3.5 Bar

Wind-Resistant

No Misting

Rotating Streams

Install MORE MP Rotators per Zone...

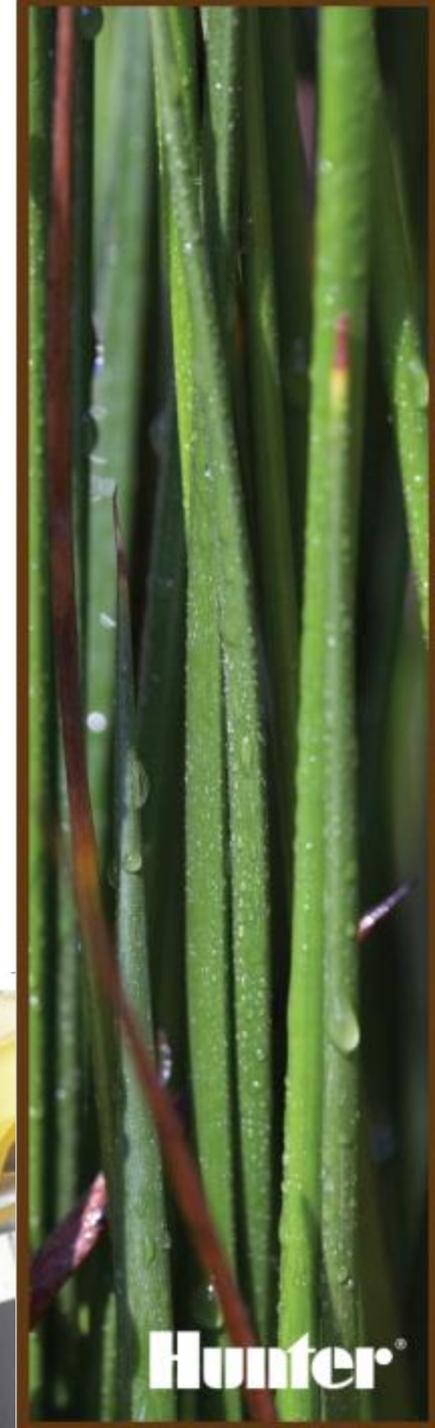


Scheduling

- MP Rotators Apply Water Slower than Sprays



**Run MP Rotators
About 2x LONGER!!**



Water Window

- Precipitation Rate = Slower
- Area Covered = Larger
- Time to Water Area = Unchanged

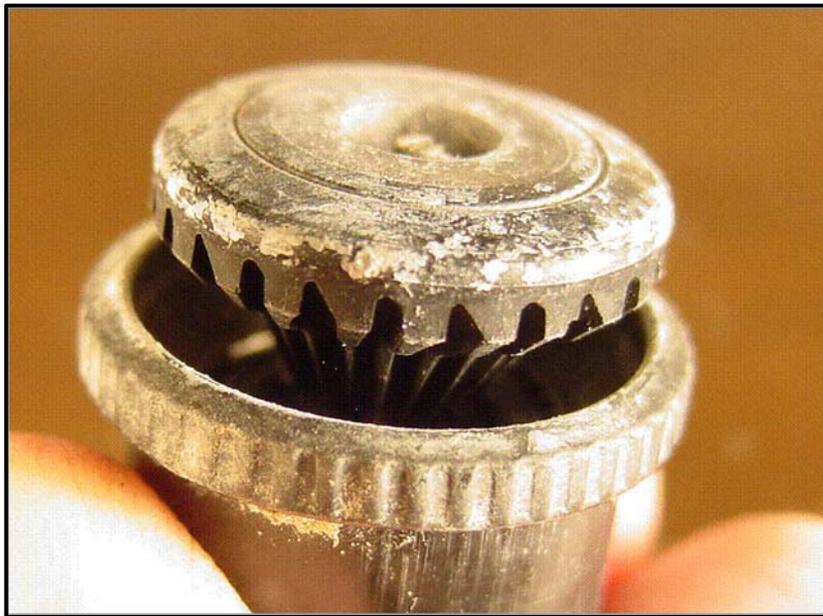
**Water Window the SAME with
MP Rotator!!**



Hunter®

MP Rotator Reliability

Flow & Distance Tested to Original Specs
Channels Stay Protected & Clean



Location: Pasco, WA
Build-up After 1 Yr.

Calcium



Location: Australia
Coating After 1 Yr.

Iron

MP Rotator in Reclaimed Water

- Irvine and Cochella Testing
- Irvine Ranch
- All Seal Material is EPDM (high chemical resistance)

No Problem with Reclaimed Water!



MP Rotator Tools

- Quickly Find System Dynamic Pressure at the Head



MP Rotator Pressure Gauge Kit

MP Rotator – Arc Adjustment



EASY TO ADJUST ARC SETTING!!

MP Rotator – Radius Adjustment



Use orange MP tool or small-blade screwdriver designed for spray nozzles



**One-Handed Radius Adjustment –
Quick and Easy!!**



MP Rotator Tool Kit



Increase Productivity – SAVE \$\$\$



MPR 40

The MP Rotator and MPR40:
The Partnership that Performs.



MP ROTATOR®

MPR 40

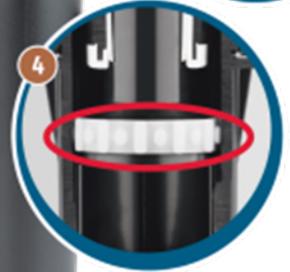
Improve MP Rotator
Efficiency by 10%!

RECLAIMED WATER
MODELS NOW
AVAILABLE!!

MPR40 Key Features

- 1 Built-in the stem regulator set at 40 PSI
- 2 New easy-to-identify gray cap
- 3 Pressure activated, multifunction, no flow-by wiper seal
- 4 Two-piece ratcheting riser for quick arc alignment
- 5 Factory-installed drain check valve

MPR40 Sprinkler Body





Pro-Spray

Hunter®

Pro-Spray Line-up

Quality you can install and trust

Models

- Shrub, 2", 3", 4", 6" and 12" models
- 6" and 12" feature side inlet



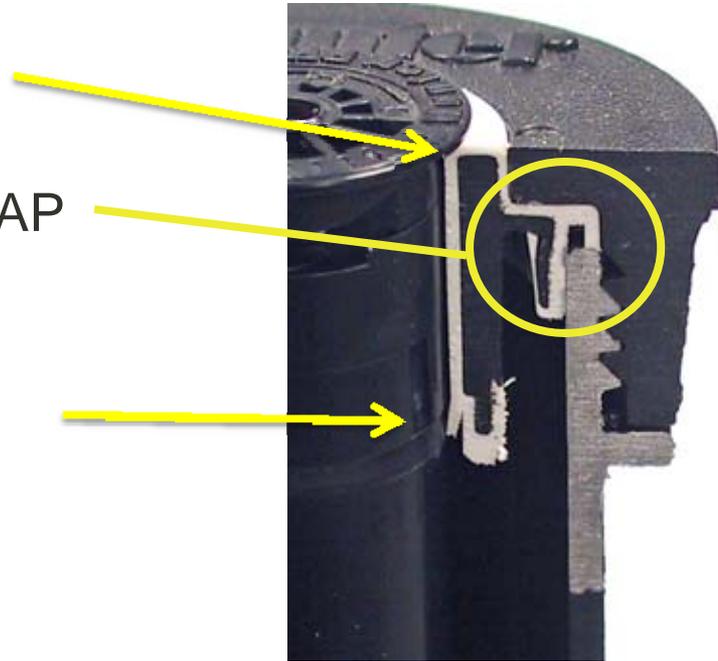
Hunter[®]

Customers Appreciate our Leak-Free Seal Design

Top wiper prevents debris from entering from the outside

Radial Seal Means NO BODY CAP LEAKS – EVER!

Lower wiper prevents excessive flushing action



Competitors Can't Claim This!



Competition



Hunter Pro-Spray

Both sprinklers were run at 50 PSI with a 15Q nozzle attached and cap 1/8 turn loose

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Solar Sync

Hunter®

Solar Sync

Affordable, Simple Weather Based Control

- Adjusts watering to changes in climatic condition
- Most economical solution to weather-based control
- Simple to program and install
- Easily convert Pro-C or ICC to “smart” control
- Reduces water usage and improves plant health
- Great for residential installations and water conservation rebate programs!



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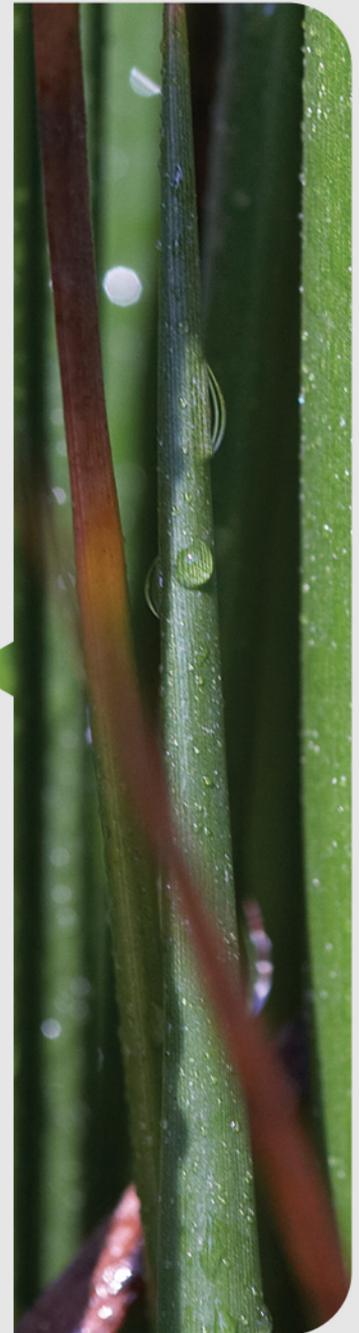
Solar Sync Sensor

Gathers On-Site Weather

Sensor calculates ET based upon on-site solar and temperature measurements



Rain-Clik and Freeze-Clik ensure system shutdown during rainy/freezing conditions



Solar Sync Module

- No complex programming required - program your controller like you normally would.
- Additional features include “no water window” capability
- Solar Sync module designed to fit inside PCC Controller



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Sensor Installation



- Mount the Solar Sync sensor where it can receive full sun and rainfall
- Includes metal mount arm and gutter mounting bracket
- 40 feet of wire included
- Wire can be added to extend to a maximum of 200ft. (waterproof wire nuts required for all outdoor splices)

Programming the Solar Sync Module

- 1) Set the **Current Time**
- 2) Set the **Controller Type**
- 3) Enter the **Region** you live in

It is as simple as that!



Additional features include:

- Global Adjust for fine tuning
- No Water Window programming

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Solar Sync by Hunter

- **Saves water:** 25-30% or more, depending on former irrigation practices
- **Builds healthier plants** and root zones
- Specific **local weather** data, with no fees or subscriptions
- **Simple & Safe** installation, new or retrofit
- **Affordable** at \$129.00 list price

The Hunter logo, consisting of the word "Hunter" in a white, bold, sans-serif font with a registered trademark symbol (®) to its upper right. The logo is positioned in the bottom left corner of a photograph of a green leaf with water droplets.

Hunter®

Hunter[®]
The Irrigation Innovators

READY TO ROLL OUT



P L D
PROFESSIONAL
LANDSCAPE
DRIPLINE



PLD Emitters

0.4 GPH



0.6 GPH



1.0 GPH



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PLD – Available Spacing

12 inch



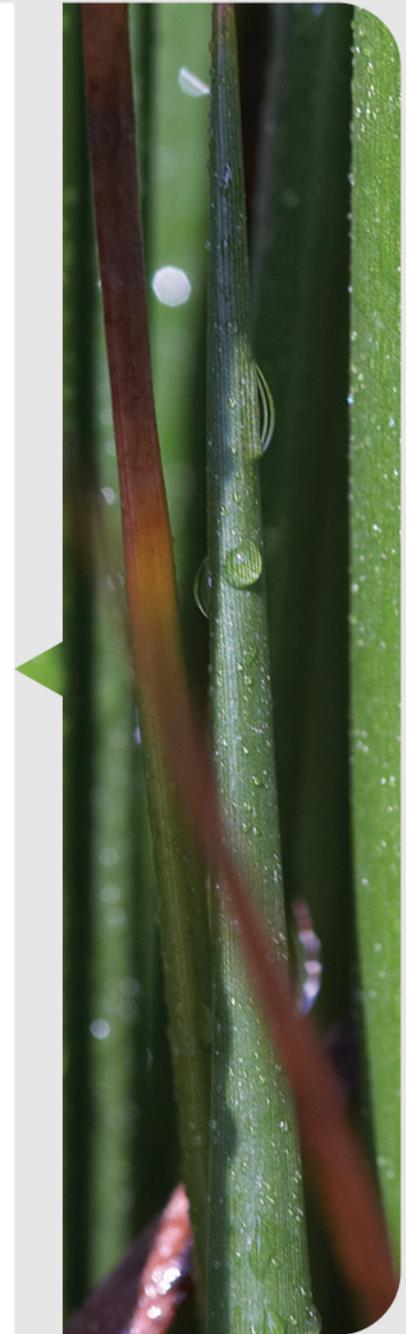
18 inch



24 inch



Blank
[no emitters]

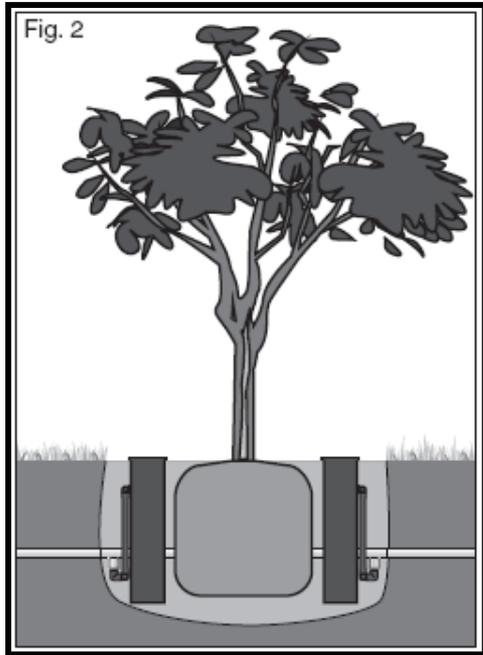


PLD - Fittings

- **17 mm barbed fittings**
 - Same color
 - Perfect match for PLD
- 1/2 NPT Adapter
- 3/4 NPT Adapter
- Coupling
- 90 Deg. Elbow
- Tee
- End Cap
- Valve



Root Zone Watering System (RZWS) Product Line



RZWS-10

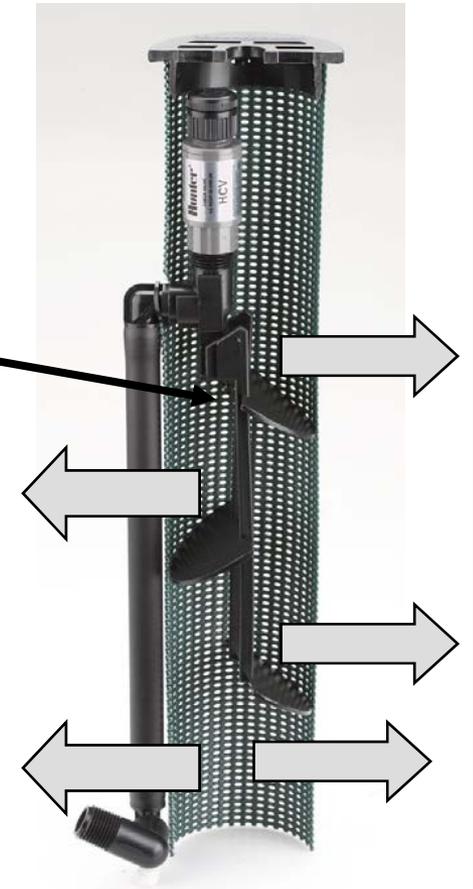
RZWS-18

RZWS-36

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Product Performance & Features

- Hunter StrataRoot™ System
 - Sends water out at different elevations
 - Provides structure to cylinder



Eliminate wasteful run-off by putting water right where it's needed: in the ground, at the roots.

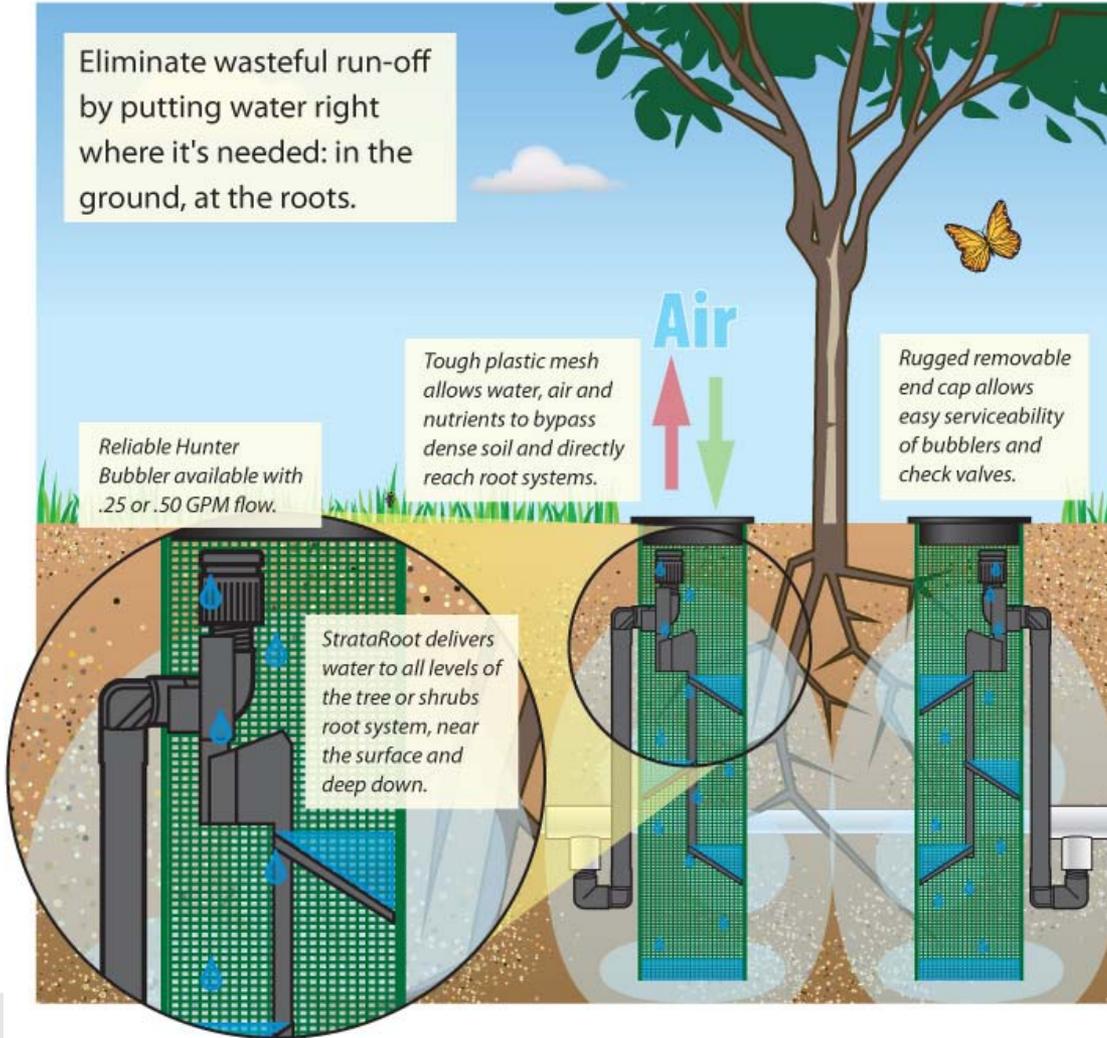
Reliable Hunter Bubbler available with .25 or .50 GPM flow.

Tough plastic mesh allows water, air and nutrients to bypass dense soil and directly reach root systems.

Air

Rugged removable end cap allows easy serviceability of bubblers and check valves.

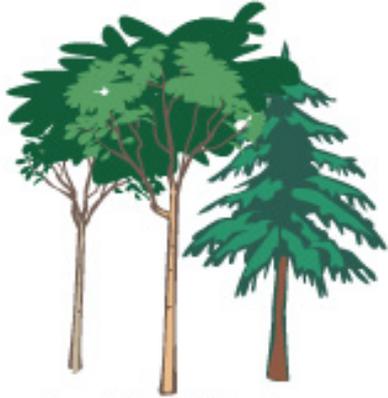
StrataRoot delivers water to all levels of the tree or shrubs root system, near the surface and deep down.



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RZWS Product Line

RZWS Usage Guide



Large Trees & Saplings



Saplings & Large Bushes
or Shrubbery



Shrubbery

36" RZWS

10" RZWS

18" RZWS



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Water Savings with Hunter Rotors

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PGP BLUE Nozzles

- Great close-in and mid-range distribution
- Superior scheduling coefficient
- Visually enhanced with high performance
- Easy installation
- Intuitive nozzle numbering system



Hunter®

I-20 BLUE Nozzles

- Full rack of 8 standard and 4 Low Angle nozzles
- Great close-in and mid-range distribution
- Superior scheduling coefficient
- Visually enhanced with high performance
- Intuitive nozzle numbering system





More Nozzle Choices

- New!! Short radius nozzles = 18' and 25' on one rack
- The three 18' nozzles have flow rates of .50, 1.0 and 2.0 GPM
- The three 25' nozzles have flow rates of .75, 1.5 and 3.0 GPM
- Now you can have matched precipitation nozzles in short radius!



I-25 Ultra, I-35 Sierra, I-40 Ultra: NEW Features !!

- Automatic Arc Return – returns arc to the original setting if turned by vandals
- Non-strippable, vandal proof back drive – prevents damage to the internal gear drive when forced against the drive direction
- Adjustable from 50 – 360 degrees in one unit (non-reversing 360 reduces stock for everyone



The I-25 Ultra: NEW Features !!

- Automatic Arc Return
- Non-strippable, vandal proof back drive
- Adjustable from 50 – 360 degrees in one unit



I-25 Ultra is Now Available in a 6" Pop-up Version

- 6" pop-up clears taller turf
- Less maintenance of heads
- Easy retrofit for impacts other manufacturer's 5" pop-up rotors
- Stainless riser and High Speed models available



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I-35 Sierra Rotor

- Full and part circle operation in a single rotor
- Automatic arc return
- Non-strippable, vandal proof gear drive assembly
- 3-Port nozzle for even coverage
- FloStop valve for maximum user flexibility
- 6" pop-up is perfect for taller turf
- Optional stainless steel riser
- Co-molded rubber body cap
- Reclaimed water ID models



I-35: Design by Color

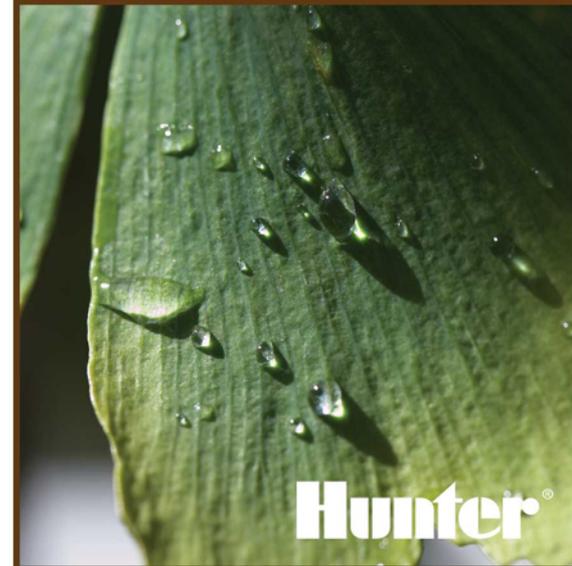
- Get 3 levels of watering perfection with the triple port nozzle design
- Color-coded nozzles that cover all the critical areas – from up close to the farthest reaches



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I-35: Experience Innovation

- The I-35 is the only 1" rotor that everything you need built right in!



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I-40 Ultra: NEW Features !!

- Automatic Arc Return – returns arc to the original setting if turned by vandals
- Non-strippable, vandal proof back drive – prevents damage to the internal gear drive when forced against the drive direction
- Adjustable from 50 – 360 degrees in one unit (non-reversing 360 reduces stock for everyone



The I-40 Ultra is Now Available in a 6” Pop-up Version

- 6” pop-up clears taller turf
- Less maintenance of heads
- Easy retrofit for older impacts or other 5” pop-up rotors





Climate Control w/ Central System

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Simple Concepts

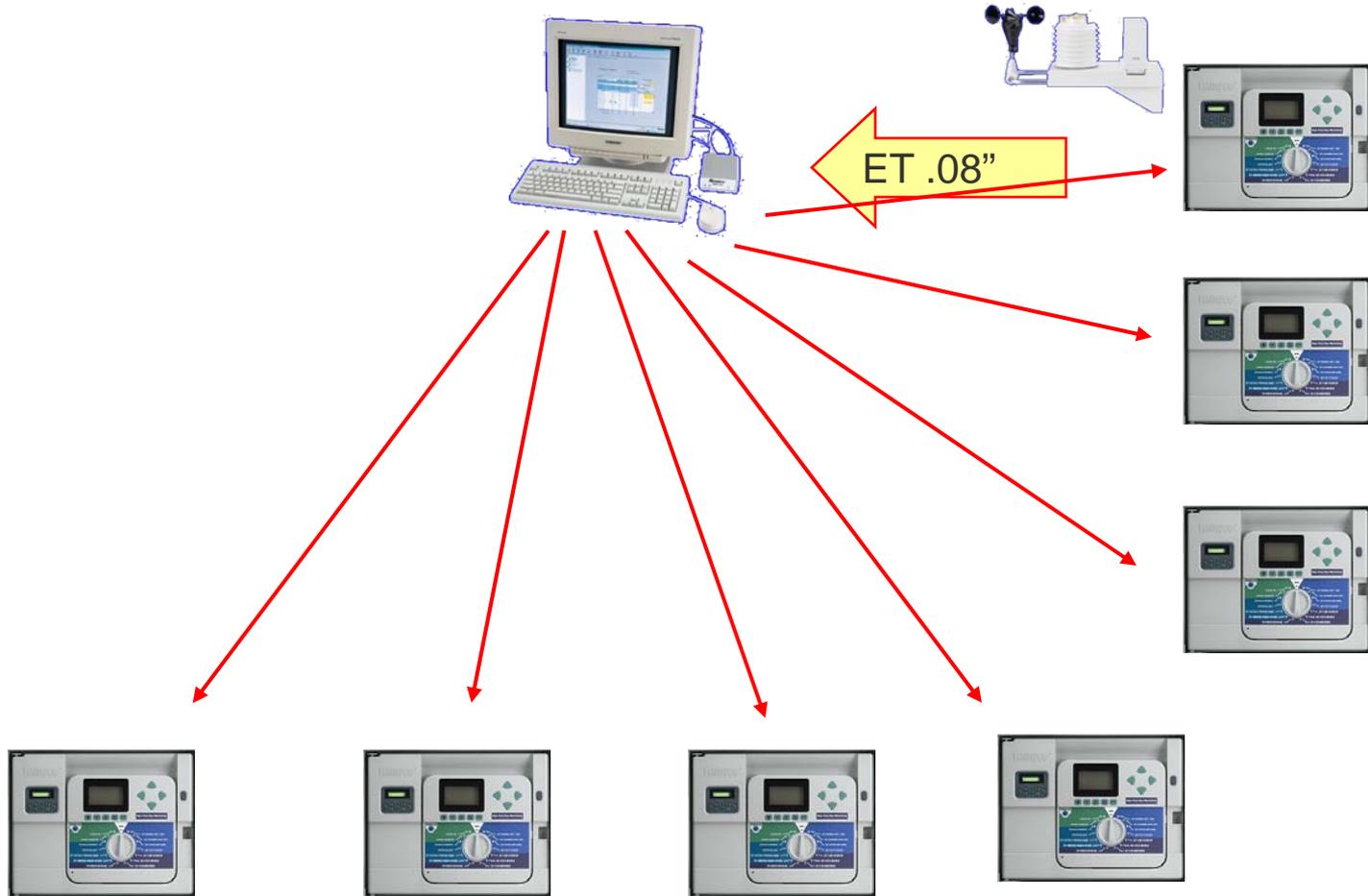
- Add ET Sensor *only*, to any ACC in an IMMS central system.



- You can add an ET Sensor to as many controllers as you want (one per microclimate, one per controller).

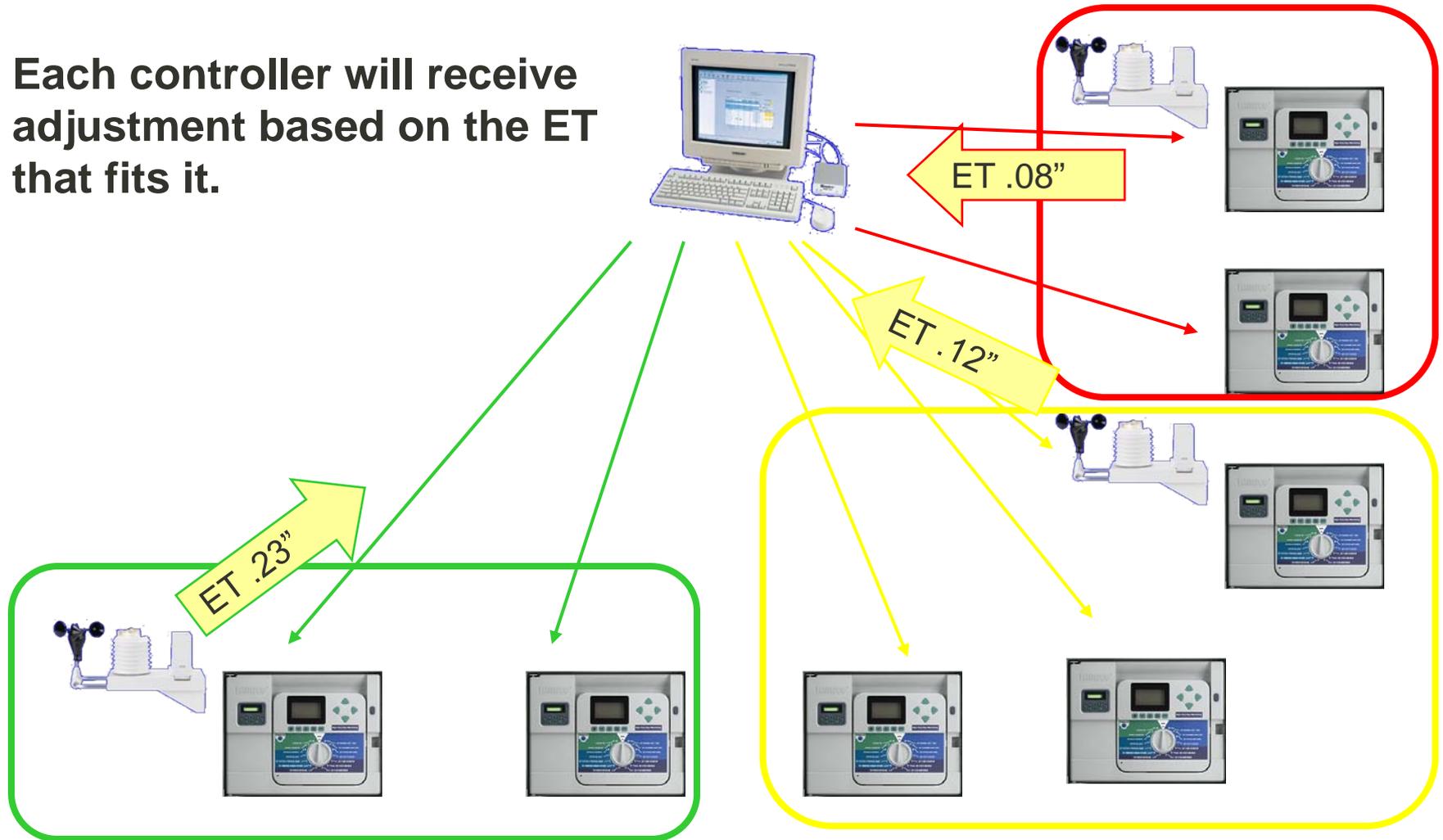
The ET is retrieved by the central (IMMS-ET).

The central calculates new run times and downloads back to the field.



You can have one ET Sensor for each microclimate (no limit on number of sensors!).

Each controller will receive adjustment based on the ET that fits it.





Questions

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Thank You.

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