Irrigation Association

Smart Practices.
Sustainable Solutions.

Colorado Water Conservation Summit

Technology for Landscape Water Managers

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Irrigation Association

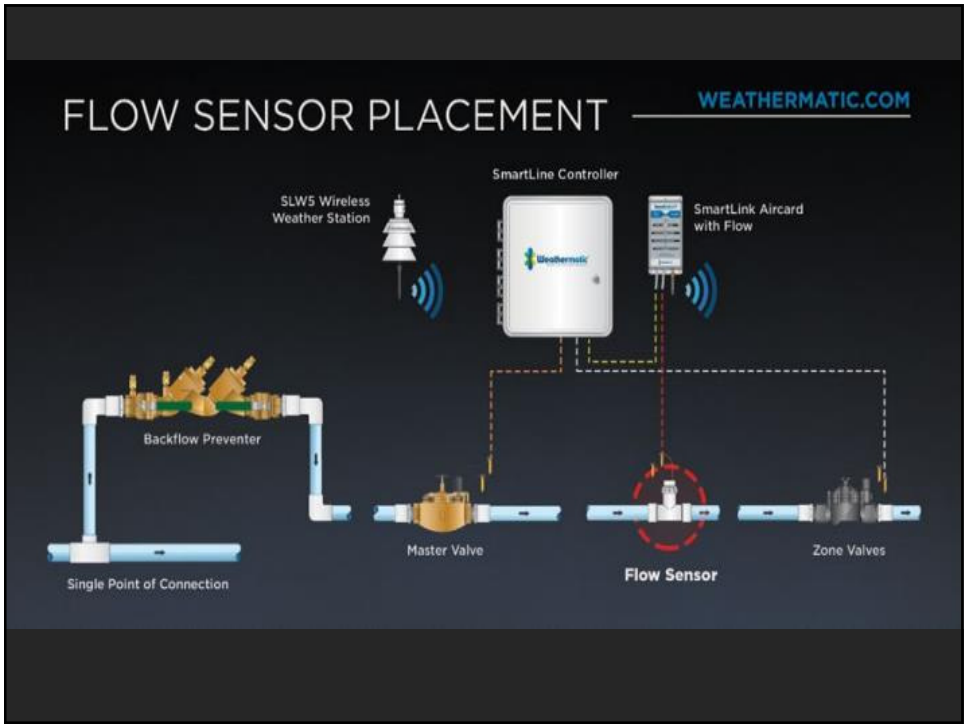
Technology

- Technology that improves irrigation efficiency
  - Water measurement
  - Sprinklers & nozzles
  - Valves
  - Controllers
- People

Measurement

- "Can't manage what you don't measure"
- Meters
  - Measure the quantity of water applied
- Flow sensors
  - Measure the rate of water application
- New technology does both
- Can be integrated with control systems
- Access via smart phone or tablet

Flow sensing & measurement



Benefits

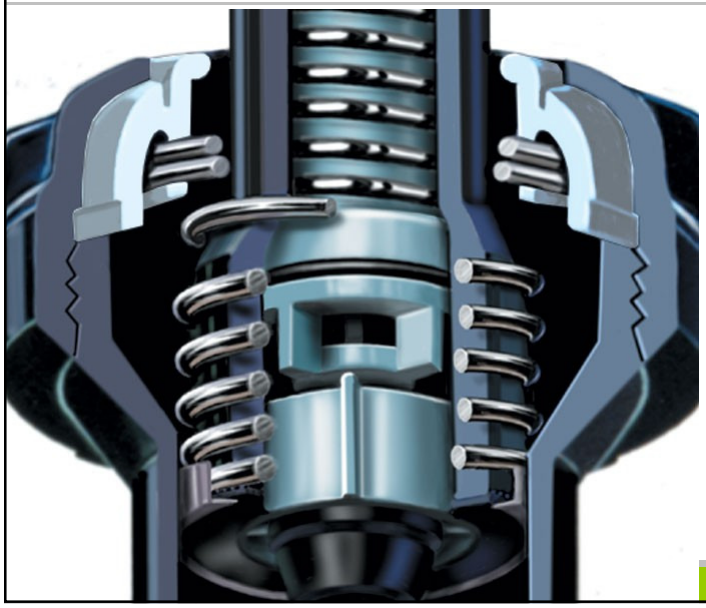
- Real-time data
- Create water use records
  - Compare use with need
- Respond to abnormal conditions
  - Too high flow— turn off / skip / alert
  - Too low flow—alert
  - Verify irrigation is happening remotely

Sprinklers

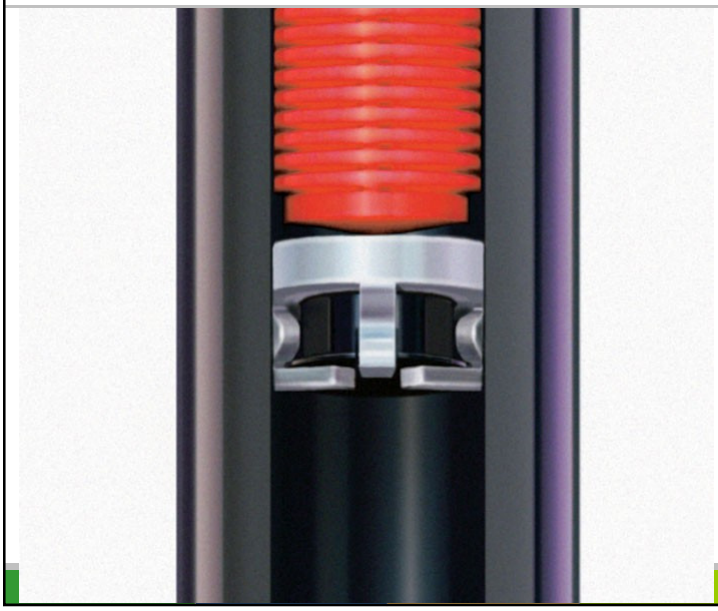
- Pressure regulation
  - Built into the sprinkler
  - Correct pressure for proper nozzle performance
  - Reduce water usage
    - 30 psi vs. 45 psi = 18% flow reduction
  - Protect against pressure spikes
- Internal check valves and/or flow stops
  - Reduce low head drainage
  - Restrict flow if missing a nozzle

Pressure regulation = correct droplet size, improve distribution

Pressure regulator

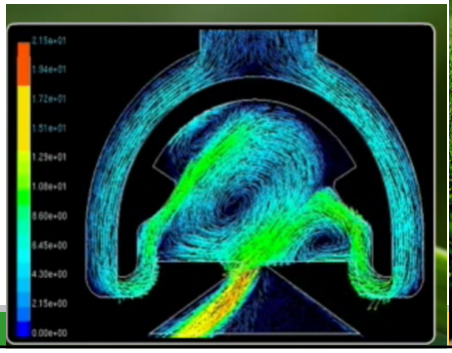


Flow stop



Nozzles

- Nozzles
  - Better pattern
  - Improved uniformity
  - Reduced PR



Benefits

Water application

- “On target” vs. Distribution Uniformity

Valves

- Pressure regulators
  - Adjustable or pre-set
  - Retrofit

Controllers

- Weather-based (ET)
- Soil Moisture-based
- Controllers respond to environmental conditions and modify the irrigation schedule
- Maximize the benefit of rainfall
- Minimize human interaction

New “smart” controller

- All of the features of the previous generation
- Utilize ET/Soil Moisture inputs
- Utilize flow sensors
- Wi-Fi enabled
- Accessible with a smart phone / tablet
- Maximize human interaction potential

SWAT & WaterSense

SWAT

- Smart Water Application Technologies
- Collaborative initiative between the irrigation industry and water providers
- Create testing protocols
  - WBIC 34 technologies
  - Soil Moisture Sensors 8 products
  - Rain Sensors 2 products tested
  - Pressure Regulators 0
  - Check valves 0

EPA WaterSense

- Controllers 174 models (10 manufacturers)
- Considering soil moisture sensors

SWAT & WaterSense

- SWAT tests products and report performance results
- WaterSense test products and gives a label
- WaterSense uses the SWAT protocol with a few modifications.
- Programs are similar but not identical.

People

- New technology can enhance water management if….
- Properly installed
- Properly calibrated
- The correct inputs are entered
- Someone can use data and make good judgments

Landscape water managers

- Knowledgeable
  - Soils
  - Plant water usage
  - Irrigation equipment
- Management includes:
  - System maintenance
  - Water budgeting
  - Irrigation scheduling
  - Monitoring & Evaluating
  - Communicating

Certification

- CID irrigation designer
- CLWM landscape water manager
- CIC contractor
- CLIA/CGIA irrigation auditor
- CIT (new) field technician

Select Certified
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Thank you