



IRRIGATION PROFILE

Collaborating With:

RAIN  **BIRD**

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WHO WE ARE

REDA Hazard Control is a part of the REDA Group, an international engineering and industrial services company.

REDA Hazard Control offers a full spectrum of end-to-end solutions for hazard control. Our areas of expertise include fire protection, safety, and security. We are a leading provider of fire protection services and safety systems & equipment. We also offer solutions that will improve and enhance your site security.

Our goal is to provide exceptional quality, tailored services, and continual support. We exist to protect the lives of people and the community in which we live and work. This is why we always strive for excellence in all that we do.

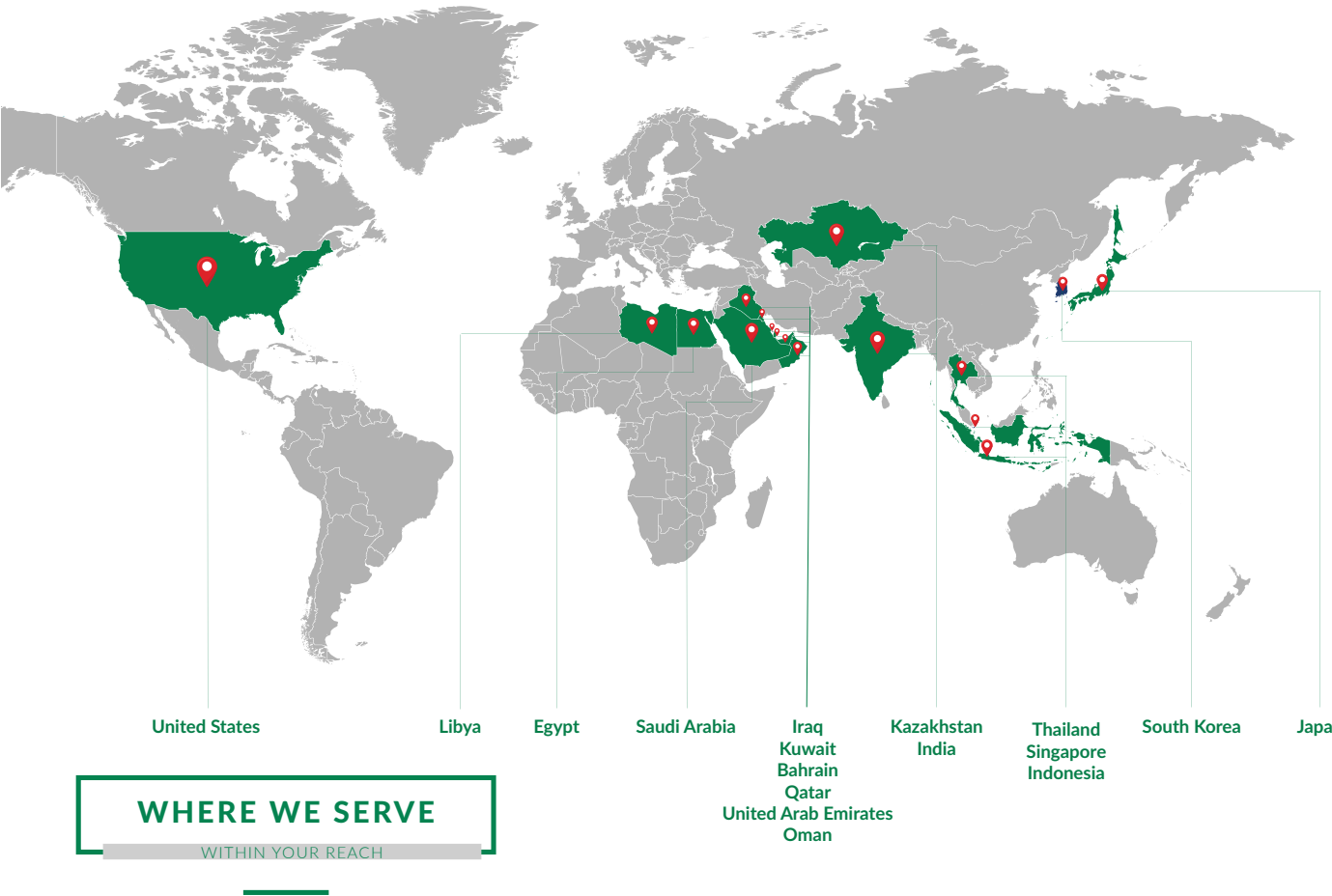
Our customers are at the heart of our business and we believe in working with you on a personal basis to ensure precision until you are completely satisfied. So when it comes to safety, rest assured... we have all the bases covered.

WHAT WE DO

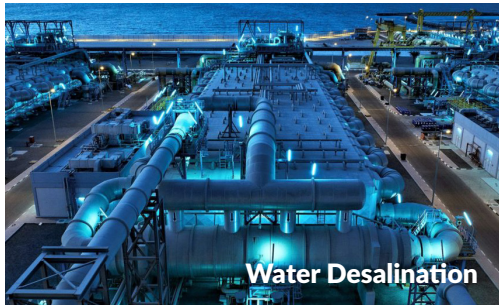
Established in 1986, REDA Hazard Control has been providing products, systems, and services to a wide variety of industries across the world. We specialize in the areas of fire protection, safety, and security.

Our dedicated team collaborates with leading manufacturers around the world. We combine their scientific and technological expertise with our wealth of contracting, installation, and service experience.

Whether large or small, REDA Hazard Control has the people, products, financial resources, and the expertise to handle your project from start to finish. We will evaluate a broad range of solutions to find what fits your needs.



WHO WE SERVE



ENGINEERING, CONTRACTING AND CONSULTATIONS:

We have the capacity to design, supply, install, test and commission of all known fire Life Safety systems. Our professional team is well qualified and industry certified to design, engineer and implement systems across the spectrum we serve. REDA Hazard Control offers:

1. Field engineering services to our prestigious project to determine on site solution to minimize the time required for any installation.
2. Quality control during the project execution.

INSPECTION AND PREVENTIVE MAINTENANCE SERVICES

REDA Hazard Control is committed to provide the highest level of inspection and preventive maintenance to the products and systems we have in our portfolio. Our factory trained and certified technicians take pride in ensuring your products and systems are maintained according to manufacturers' standards and guidelines as well as the international codes having reference. Our services comprise of:

- On-site inspections
- Preventive maintenance and corrective maintenance
- Hydrostatic pressure testing and recharging
- Calibration and certification

TURNKEY PROJECTS

We have the capacity to manage and perform turnkey projects across the sectors we serve working with international Consulting Houses and EPC Contractors. In addition to the technical support provided by our world reputed partners, we have at our disposal the advanced planning, design and modelling technology. We have the right people, products, financial resources and expertise to manage and serve your complete turnkey projects, be it fire protection, security, life safety or emergency response related.

- Conceptualization, detailed design and the production of drawings.
- Supply and installation of a wide range fixed fire protection systems.
- Testing & commissioning of systems.
- Provision of As-Built documentation.

Preserving beauty while conserving water.
That's intelligent.

At Rain Bird, we believe it is our responsibility to develop products and technologies that use water efficiently. Our commitment also extends to education, training and services for our industry and our communities.

Through innovative product development, Rain Bird is helping sustain healthier landscapes—and a healthier planet. A lush lawn or colorful garden can also be highly water-efficient. Every Rain Bird product is a testament to that truth.

From water-saving nozzles to sprays with pressure-regulating stems to leading-edge Smart Control Technology, Rain Bird products make the most of every drop, delivering superior results with less water. Keeping the world and your backyard beautiful. That's The Intelligent Use of Water.™

The need to conserve water has never been greater. We want to do even more, and with your help, we can.



Together, we can make a difference

At Rain Bird, we believe that saving water is a responsibility that we all share. Our industry can have a tremendous impact on water conservation by installing more efficient systems and teaching customers how to use them correctly. By working together, we can really make a difference.

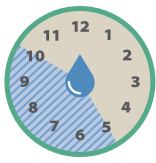
Rain Bird's 25 Ways offers practical, effective tips and advice drawn from the company's 80-plus years of experience in the irrigation industry. Available at 25ways.rainbird.com, these resources can be used anywhere and by anyone who wants to improve their watering efficiency.

Water Saving Tips from Rain Bird

Visit 25ways.rainbird.com for a complete list of water saving tips and techniques in each of the following categories.



Improve Your Existing System



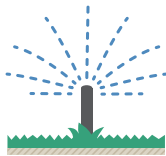
Water Only At The Right Times



Don't Overwater



Use The Right Products



Keep Your Water In Place



Update Your Landscape

Introduction

Water efficient irrigation technology for every landscape application

When you design and install Rain Bird complete irrigation solutions, you can be confident knowing that the system will perform better and last longer for many years to come. No matter what your irrigation needs are, Rain Bird has a solution that will help save water for every application in your next green project.



Spray Bodies



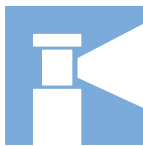
Central Controls



Spray & Rotary Nozzles



Drip Irrigation



Rotors



Pump Stations & Filtration



Valves



Drainage Products



Controllers



Resources



Sensors & Meters

Spray Bodies



Spray Bodies

Major Products														
	1802, 1804, 1806	1812 PRS	1800 PRS	1800 SAM	1800 SAM-PRS	1800 SAM- PRS-45	US-400	1300/ 1400 Bubblers	PA-80 PA-8S PA-8S-NP PA-8S-PRS PA-8S-P45	RD-04, RD-06	RD-12	RD1800 SAM- PRS	RD1800 SAM- PRS-F	RD1800 SAM- PRS-45-F
Primary Applications														
Turfgrass	●		●	●	●	●	●			●		●	●	●
Slopes				●	●	●	●					●	●	●
Ground Cover/Shrubs	●	●	●	●	●	●	●	●	●	●	●	●	●	●
High Pressure Systems			●		●	●		●	●	●	●	●	●	●
Low Pressure Systems	●	●					●	●	●	●	●			
High Wind Areas	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Non-Potable Water									●	●	●	●	●	●
Vandalism/Damage Prone													●	●
Dirty Water										●	●	●	●	●

Water Saving Tips

- The patented, built-in PRS regulator maintains optimal operating pressure and restricts water loss by up to 70% if a nozzle is removed or damaged. It also ends water waste by eliminating misting and fogging caused by high pressure.
- Save water, stop low head drainage, and reduce water hammer by preventing water from draining out of pipes after irrigation with 1800/RD1800 Series Sprays featuring Seal-A-Matic™ (SAM) check valves.
- Exclusive Flow Shield Technology available in the RD1800 Series provides up to 90% reduction in water loss when a nozzle is removed, preventing potentially costly and unacceptable run-off.

Spray & Rotary Nozzles



Spray & Rotary Nozzles

Major Products					
	Rotary Nozzles		Variable ARC Sprays		Fixed ARC Sprays
Primary Applications	R-VAN Best	HE-VAN Best	VAN Standard	U-Series Best	MPR Standard
Turfgrass	●	●	●	●	●
Slopes	●				
Narrow Strips	●				●
Trees					
Landscape Beds	●	●	●	●	●
High Efficiency	●	●		●	
High Winds	●	●			
High Pressure	●				

Refer to page 124 for more information on SQ Series, Square Pattern Nozzles

Water Saving Water Saving Tips

- Rotary Nozzles have efficient water distribution through rotating streams that uniformly deliver water at a low precipitation rate, significantly reducing runoff and erosion.
- HE-VAN nozzles are fully adjustable from 0 to 360 degrees with high uniformity and efficiency. HE-VAN nozzles can reduce the number of variations that need to be carried to cover just about any field challenge. Available in radii from 8' to 15', this high efficient nozzle has you covered.
- U-Series Nozzles are dual-orifice nozzles that have better, more uniform water distribution. Water flowing from both orifices combines to form a continuous water stream and eliminates gaps for more uniform coverage throughout the entire watering area.

Rotors



Rotors

Major Products	Gear Driven Rotors				Impact Rotors	
	3500 Series	5000 Series	Falcon™ 6504 Series	8005 Series	2045A Maxi-Paw™ Series	XLR Water Jet Series
Primary Applications						
Turfgrass 15' to 35'	●	●				
Turfgrass 25' to 50'		●	●	●	●	
Turfgrass more than 50'			●	●		●
Residential	●	●			●	
Commercial	●	●	●	●	●	●
Vandalism/Damage Prone Areas				●		
Slopes	●	●	●	●	●	●
Ground Cover/Shrubs	●	●				
Athletic Fields			●	●		●
Pressure Regulating		●				
High Wind Areas	●	●	●	●	●	●
Taller Turfgrass		●		●		●
Non-Potable Water		●	●	●	●	●

Water Saving Water Saving Tips

- Rain Curtain™ nozzle technology is the standard in water-saving nozzle performance. Rain Curtain™ performance is available in all Rain Bird Rotors.
- 5000 Series Rotors with PRS reduce water waste from 15%-45%. By eliminating pressure variation and/or over pressurization, you'll save water and deliver greener results.
- All rotors with Seal-a-Matic™ (SAM) check valves prevent drainage from heads at lower elevations, stop water waste and eliminate landscape damage due to flooding and/or erosion.



Valves

Major Products									
Primary Applications	HV	HVF	DV	DVF	ASVF	PGA	PEB/PESB/PESB-R	EFB-CP/BPES	QC
Manual Bleed	I/E	I/E	I/E	I/E	I/E	I	I/E	I/E	
Flow Control		●		●	●	●	●	●	
Bottom Inlet			DV-A		●	●		BPES	●
Low Flow	●	●	●	●	●		●	●	
PRS-Dial Compatible						●	●	●	
Dirty Water							●	●	
Non-Potable Water						●	●	●	●
Sites Requiring Brass								●	●
Sites Requiring Plastic	●	●	●	●	●	●	●		
Decoder System Compatible						●	●	●	

• DV/DVF available in globe, angle, slip x slip, and male x barb configurations. • Flows below 3 gpm (0.68 m³/h; 0.19 l/s) install 200 mesh filter upstream. • I/E = Internal/External
• The PESB-R and EFB-CP are specifically designed with chlorine-resistant components for reclaimed water applications.



Water Saving Tips

- The PRS-Dial is an excellent means of regulating outlet pressure at the valve regardless of incoming pressure fluctuations. It helps ensure optimal pressure performance at the head.
- Rain Bird valves provide excellent filtration characteristics for maximum reliability in a wide range of environments.
- PESB-R and EFB-CP reclaimed valves provide reliable operation in all water conditions. Valve diaphragms are composed of EPDM, a rubber material which is chlorine and chemical resistant.



Controllers



Water Saving Tips

- A Seasonal Adjust feature is available on all Rain Bird AC-powered controllers, allowing users to easily adjust irrigation schedules to changing seasonal landscape water requirements. The ESP-LX Series Controllers also feature an automated Monthly Seasonal Adjust feature to help save water through automatic adjustments every month of the year. LNK WiFi Module compatible controllers can be adjusted daily with the Automatic Seasonal Adjustment feature in the Rain Bird App.
- Water savings can also be optimized through daily irrigation schedule adjustments which fine-tune watering based on current weather. All ESP-LX series controllers can easily be upgraded to include smart weather-based/ET or soil moisture irrigation control capability by adding a local rain sensor or soil moisture sensor.
- All Rain Bird controllers simplify conservation through a variety of flexible programming features. With the touch of a button, the ESP-ME3 and ESP-TM2 can recall a previously saved "Contractor Default" irrigation program; the ESP-LX Series "Delayed Recall" feature automatically reverts to typical watering programs after a user-set time period.



Sensors & Meters

Sensors & Meters Compatibility Matrix											
Accessory	Description	ESP9V	TBOSBT	ESPTM2	ESPME	ESPME3	ESPLXME	ESPLXMEF	ESPLXD	ESPLXIVM	ESPLXIVMP
Weather Sensors & Stations											
RSD-BEx	Wired Rain Sensor	•	•	•	•	•	•	•	•	•	•
WR2	Wireless Rain/Freeze Sensor			•	•	•	•	•	•	•	•
SMRT-Y	Soil Moisture Sensor			•	•	•	•	•			
ANEMOMETER	Wind Speed Sensor						• ¹	• ¹	• ¹	• ¹	• ¹
Flow Meters & Sensors											
MJ100B	1" Brass Water Meter				•		•	•	•	•	•
ICWM	Internet Connected Water Meter										
FS100P	1" PVC Tee Flow Sensor				•		•	•	•	•	•
FS150P	1-1/2" PVC Tee Flow Sensor				•		•	•	•	•	•
FS200P	2" PVC Tee Flow Sensor				•		•	•	•	•	•
FS300P	3" PVC Tee Flow Sensor				•		•	•	•	•	•
FS400P	4" PVC Tee Flow Sensor				•		•	•	•	•	•
FS100B	1" Brass Tee Flow Sensor				•		•	•	•	•	•
FS150B	1-1/2" Brass Tee Flow Sensor				•		•	•	•	•	•
FS200B	2" Brass Tee Flow Sensor				•		•	•	•	•	•
FSINSERT	Replacement insert for tee sensors				•		•	•	•	•	•
FS350B	Insert Flow Sensor				•		•	•	•	•	•

¹ Requires PT5002 Pulse Transmitter

Water Saving Water Saving Tips

- Properties managed with a flow sensor averaged 35% savings. As part of a two-year study, historical water usage was compared on eight properties to water usage after a flow sensor was installed.
- By installing a Rain Bird flow sensor and a compatible flow-sensing controller, you can quickly identify leaks, shut down damaged areas and prevent costly flooding to your property. Plus, you can monitor your water efficiency over time.
- With cost-effective flow-sensing technology from Rain Bird, you can help avoid small leaks and big issues—building more trust and a stronger reputation for your business.



Central Controls

Water Saving

Water Saving Tips

- Maxicom², SiteControl, and IQ[™] Systems provide fully-automated ET (evapotranspiration) adjustment of irrigation programs for maximum water savings.
- Maxicom² and IQ[™] FloWatch[™] utility monitors and records real-time flow and automatically diagnoses and eliminates flow problems caused by broken pipes, vandalism or stuck valves.
- The Rain Bird[®] IQ[™] Platform. The ultimate tool for remote water management. With no hidden fees, it's the perfect remote water management solution. With the new IQ4-Cloud software, you can control your irrigation system from any device, anywhere with all the features of the full system. With set up that takes less than five minutes, multi-user access and no recurring annual fees, you finally have the option you've been waiting for.

Join the IQ Movement! Visit www.rainbird.com/products/iq4 and take control now.

Drip Irrigation



Drip Irrigation

Major Products						
Primary Applications	Single outlet emitter	Multi-outlet emitter	Bubbler emitter	Spray	Inline emitter (Dripline)	RWS
Thick bushes		•	•	•	•	
Single bush	•					
Small trees	•	•			•	•
Large trees	•	•	•			•
Ground cover		•		•	•	
Annuals			•	•	•	
Mixed vegetation	•	•			•	
Potted plants	•		•	•	•	
Hedges	•				•	
Vegetation on slopes	•				•	

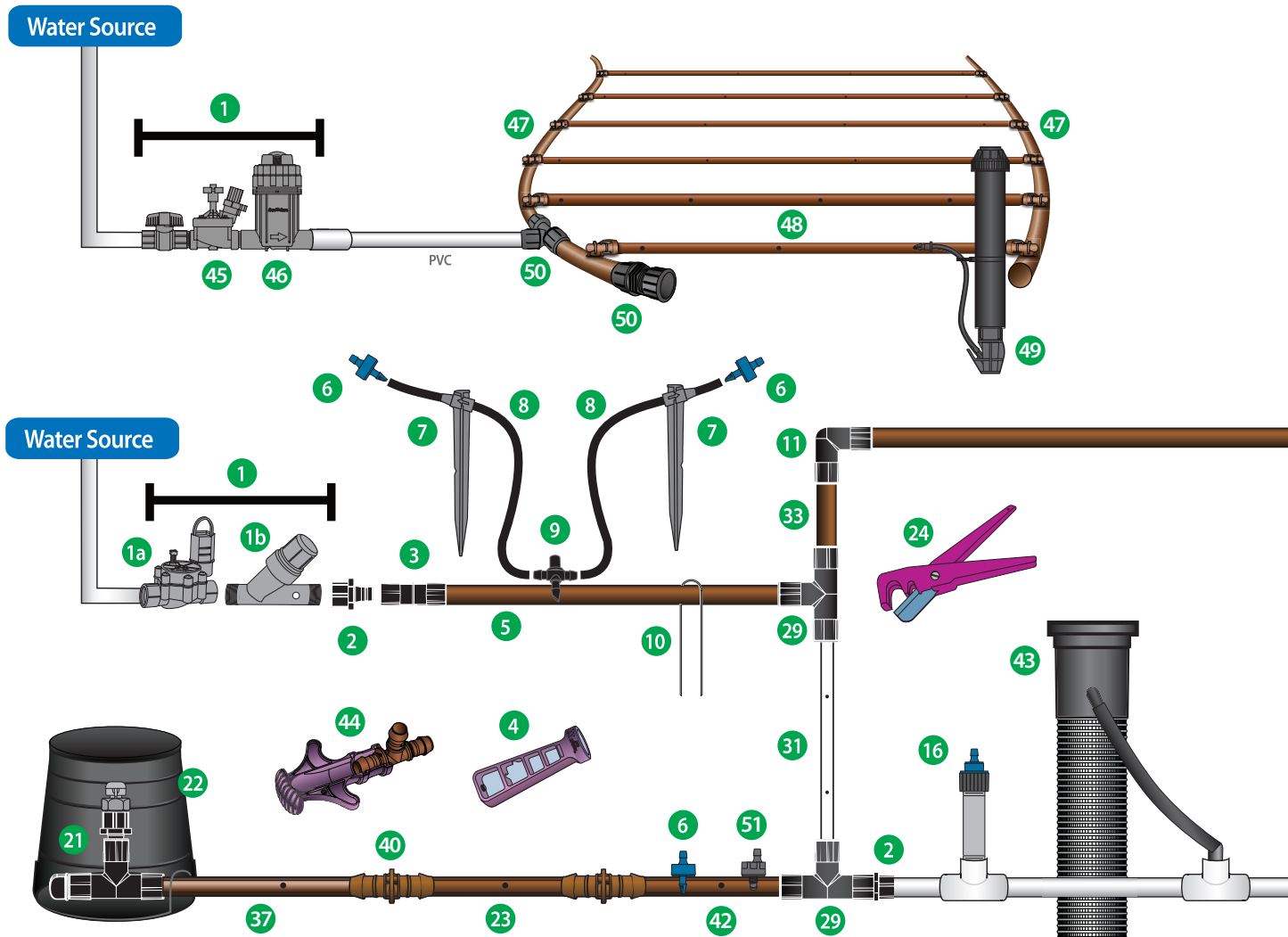


Water Saving Tips

- Drip products deliver water directly to the root zone. Use dripline for dense plantings where it's cost effective to distribute low-volume water evenly. Use a system of precise emitter devices for sparse plantings where it's cost effective to separately irrigate each plant.
- Use drip to eliminate overspray, and you'll eliminate waste. Eliminate unsightly spray stains on buildings and fences. Eliminate soil erosion, water runoff, and potential litigation. Walkways, roads, and vehicles stay dry.
- Ask your tax advisor about capital depreciation when calculating your return-on-investment for a drip retrofit. Save water, and save money at the same time.

Drip Irrigation

Landscape Drip System Overview



- 1. Control Zone Kit (pg. 152)
- 1a. Low Flow Valve (pg. 160)
- 1b. Pressure Regulating Filter (pg. 161)
- 2. Easy Fit Female Adapter (pg. 146)
- 3. Easy Fit Coupling (pg. 146)
- 4. Xeriman Tool (pg. 118)
- 5. XF Series Blank Tubing (pg. 148)
- 6. Xeri-Bug Emitter (pg. 118)
- 7. 1/4" Tubing Stake (pg. 129)
- 8. XQ 1/4" Distribution Tubing (pg. 150)
- 9. 1/4" Barb Tee (pg. 151)
- 10. Tie-Down Stake (pg. 151)
- 11. Easy Fit Elbow (pg. 146)
- 12. Diffuser Bug Cap (pg. 129)
- 13. PC Emitter Diffuser Cap (pg. 129)
- 14. PC Module-1032 (pg. 122)
- 15. PolyFlex Riser Assembly (pg. 130)
- 16. Xeri-Bug Emitter - 1/2" FPT (pg. 118)
- 17. 1/4" Self-Piercing Barb Connector (pg. 120)
- 18. SQ Series Square Nozzle (pg. 124)
- 19. Xeri-Pop (pg. 126)
- 20. Xeri-Bubbler SPYK (pg. 127)
- 21. ARV050 Air Relief Valve Kit (pg. 147)
- 22. SEB-7X Emitter Valve Box (pg. 151)
- 23. XFD Dripline (pg. 135)
- 24. Tubing Cutter (pg. 151)
- 25. Xeri-Bird 8 (pg. 121)

Drip Irrigation

Targeted Watering with Landscape Drip

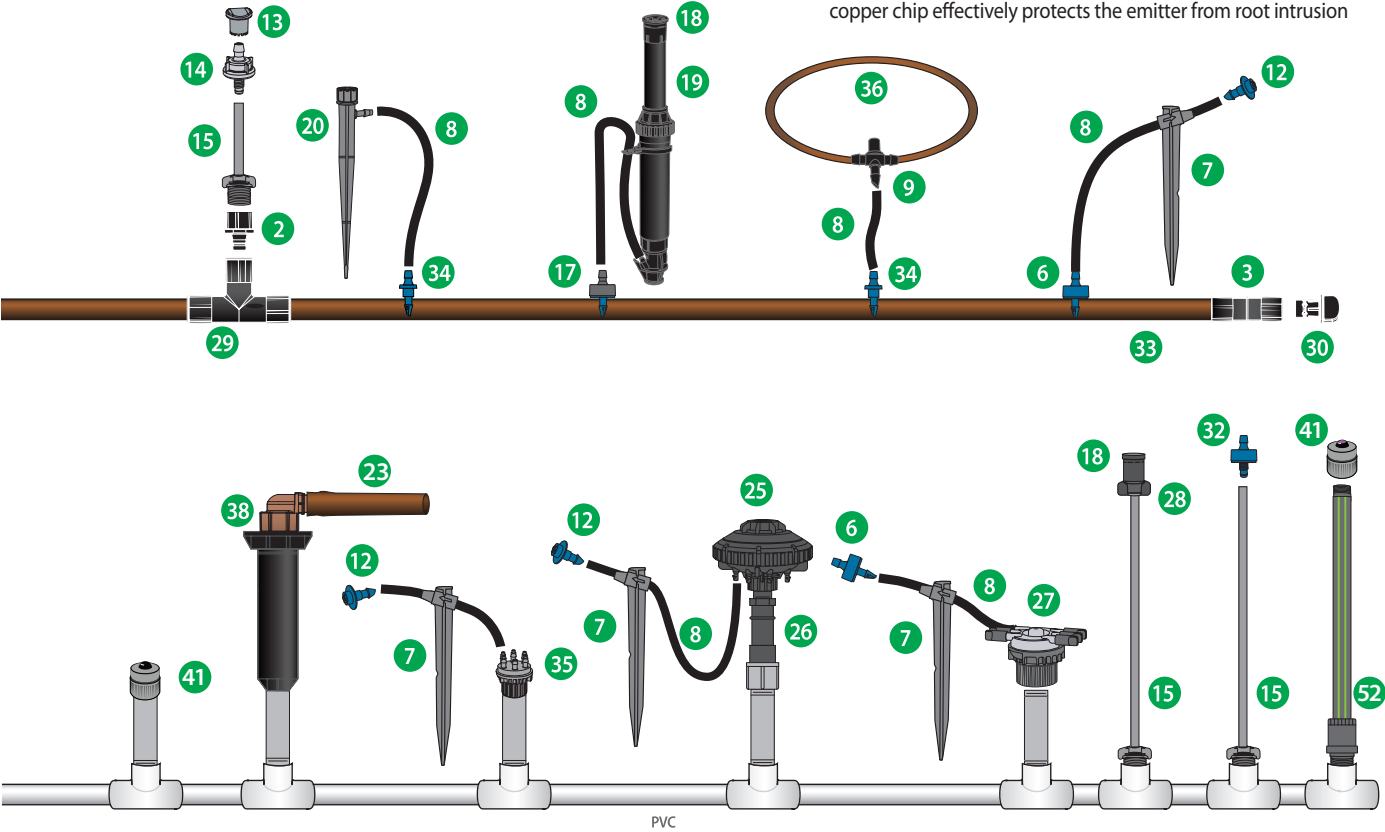
Rain Bird Xerigation®/Landscape Drip products are made especially for low-volume irrigation systems. By delivering water at or near the plants' root zones, Rain Bird Xerigation® products offer targeted watering with the following advantages:

- Water conservation
- Greater efficiency (target each plant)
- Design flexibility; simple construction and easily expandable
- Healthier plants
- Reduced liability (e.g. no overspray, no runoff)
- Minimization of weed growth
- Cost savings

Broadest Product Line in the Industry

With over 150 products, Rain Bird has the products needed for your application. Systems can be designed to meet any site requirements and offer many exclusive Rain Bird advances including:

- Flexible XF Series dripline with advanced polymers that provide kink-resistance and reduced coil memory for easier installation
- Compact Control Zones with combined pressure regulator and filter to reduce parts, potential leak problems, and allow for fitting more Control Zones in a valve box
- Precision low volume SQ spray nozzles that offer a square wetting pattern and adjust to either 2.5' or 4' throw distances
- Point-source emitters that provide pressure compensation with a wide selection of flow rates and three inlet options (Barb, 1032 threaded, and ½" FPT)
- XFS and XFS-CV dripline with Copper Shield Technology™ for use in sub-surface applications under turf or shrub and groundcover areas. The copper chip effectively protects the emitter from root intrusion



- | | | |
|-------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------|
| 26. Retrofit Pressure Regulator (pg. 163) | 36. ¼" Landscape Dripline (pg. 151) | 45. PEB Valve (pg. 67) |
| 27. 6 Outlet Manifold (pg. 120) | 37. XFS-CV Sub-Surface Dripline with Copper Shield Technology (pg. 141) | 46. Quick-Check Pressure Regulating Filter (pg. 164) |
| 28. SQ Series Nozzle Adapter (pg. 124) | 38. RETRO-1800 Spray-to-Drip Retrofit Kit (pg. 167) | 47. QF Dripline Header (pg. 143) |
| 29. Easy Fit Tee (pg. 146) | 39. XT-025 ½" FPT x Barb Grey Transfer Fitting (pg. 120) | 48. XF Series Dripline (XFD/XFS/XFCV/XFS-CV) (pg. 135-141) |
| 30. Easy Fit Flush Cap (pg. 146) | 40. XFF Coupling (pg. 145) | 49. Operation Indicator (pg. 147) |
| 31. Purple XF Dripline (pg. 135) | 41. PCT Bubbler (pg. 122) | 50. Twist Lock Fittings (pg. 144) |
| 32. Xeri- Bug Emitter - 1032 (pg. 118) | 42. XFCV Dripline with Heavy-Duty check valve (pg. 137) | 51. Xeri-Bug™ with Check Valve (pg. 115) |
| 33. XF Series Blank Tubing (pg. 148) | 43. RWS (Root Watering System) (pg. 132) | 52. XDD12-CV Riser (pg. 131) |
| 34. ¼" Barb Connector (pg. 151) | 44. XF Insertion Tool (pg. 147) | |
| 35. Multi-Outlet Xeri-Bug (pg. 120) | | |

Drip Irrigation



Pump Stations & Filtration



Drainage



Drainage

Pump Stations & Filtration

Water Saving \$ Water Saving Tips

- Newer high-efficiency motors are able to convert a higher percentage of their electric input to useful mechanical work resulting in energy and cost savings.
- Rain Bird Variable Frequency Drive (VFD) pump stations save energy while delivering the water pressure necessary to ensure maximum water use efficiency.
- Rain Bird designs pump stations specifically for the application, ensuring the pump runs at maximum efficiency. Delivering the right pressure as demanded by the system ensures your irrigation system is efficient and effective. For assistance call 520-806-5620 or email pumps@rainbird.com.

Water Saving \$ Water Saving Tips

- Installing a well-designed drainage system will result in the collection and capture of rain, runoff water and standing water from the site.
- The collected water can then be directed to an on-site storage tank, treated (if required) and pumped on an "as needed" basis to feed a Rain Bird water efficient irrigation system.
- Drainage systems can reduce damage to structures by directing water away from the foundation of the structure to a more desirable area on the site.
- A Rain Bird Drainage Pop-Up Valve (DPUV) can be installed at the lowest point of the piping network to allow for the collected water to slowly percolate into the soil and recharge the ground water supply.
- A properly installed drainage system can eliminate issues on the site caused by rushing or standing water which can result in soil erosion, plant disease and structural damage.
- Remember, water always runs downhill. Make sure that there is at least a 2% elevation difference between the high-end and the low-end of the drainage system.



Rain Bird Online Resources and Contacts List

Programs and Marketing Resources	Contacts/Information
Design and Specification Resources	www.rainbird.com/documents/professionals
Distributor Portal Website	www.rainbird.com/turfdistributor
Public and Non-Profit Agencies Portal	www.rainbird.com/agency
Facebook	www.facebook.com/RainBirdCorp
Intelligent Use of Water™	www.rainbird.com/corporate/intelligent-use-water
LEED Library	www.rainbird.com/LEED
Rain Bird Logo	www.rainbird.com/corporate/rain-bird-logo
Product Catalog	www.rainbird.com/catalog
Product Literature and Tech Specs	www.rainbird.com/documents/professionals
Rain Bird Agency Rewards (non-profits and government agencies)	www.rainbird.com/agency • E-mail: rewards@rainbird.com
Rain Bird Rewards	www.rainbird.com/Rewards • E-mail: rewards@rainbird.com
Rain Bird Training Services	www.rainbirdservices.com
Rain Bird Replacement Parts	www.rainbird.com/parts
Twitter	www.twitter.com/rainbirdcorp
Water Efficiency Calculators	www.rainbird.com/professionals/calculators
Site Reports	www.rainbird.com/sitereports
YouTube	www.youtube.com/rainbirdcorp

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