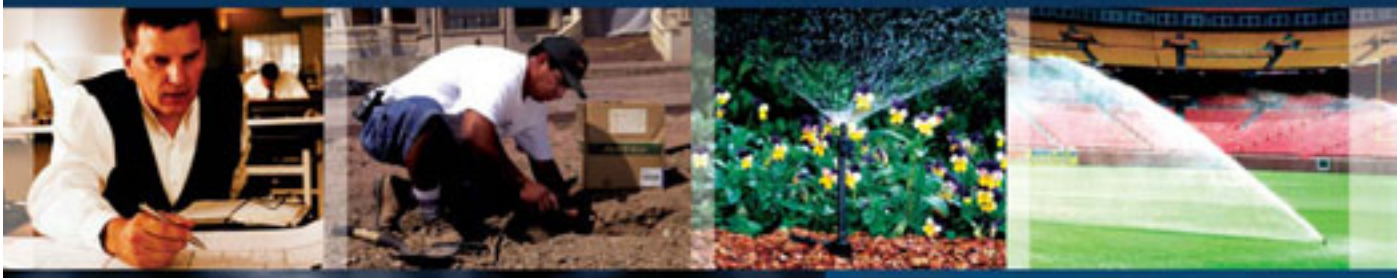
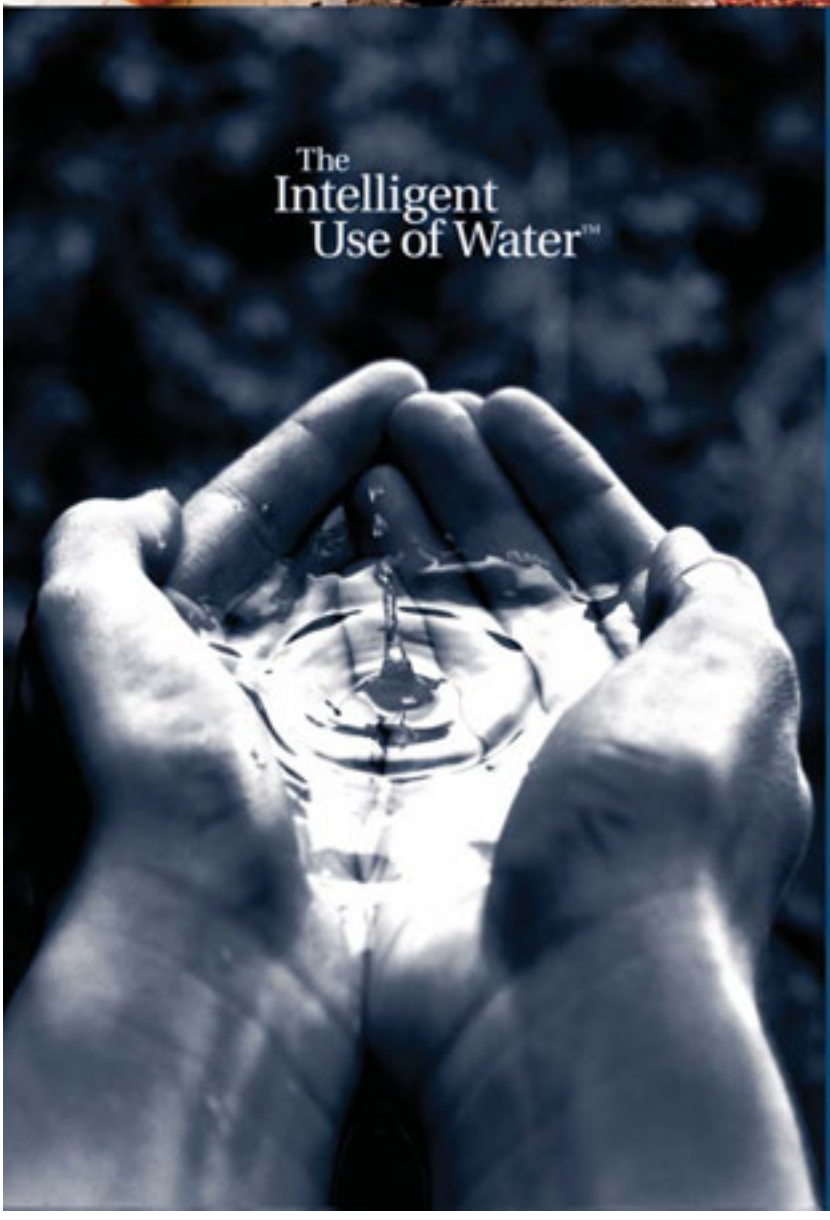
Landscape Irrigation Products

2007 – 2008 Catalog

Install Confidence.® Install Rain Bird.®

Contents





Water. It's what keeps the world alive. As the world's largest manufacturer of irrigation products, we believe it is our responsibility to develop technologies that use water efficiently. Over the past seven decades, our pioneering efforts have resulted in more than 130 patents. From central control systems and automatic shut-off devices to pressure regulating components and low volume drip irrigation, Rain Bird designs products that use water wisely. And our commitment extends beyond products to education, training and services for our industry and our communities.

The need to conserve water has never been greater. We want to do even more, and with your help, we can. Visit **www.rainbird.com** for more information about The Intelligent Use of Water.™

The Intelligent Use of Water™

Common Water Waste Problems and Solutions Guide

The need to conserve water has never been greater. We want to do even more, and with your help we can. This Application Guide highlights a number of common water waste problems and describes how Rain Bird® irrigation products provide solutions that result in more efficient water use.

WATER WASTE PROBLEM	SOLUTION	BENEFITS	SPRAY HEADS & ROTORS	VALVES & CONTROLLERS	OTHER
Misting, fogging (due to high pressure)	Pressure regulating devices	Maintain constant optimal water pressure to prevent misting and evaporation of water due to high pressure. Every 5 psi reduction in pressure reduces water usage by 6-8%.	• 1800®-PRS **(R/C)** • 1800-SAM-PRS **(R/C)** • 1800 PCS Screens **(R/C)**	• PRS-Dial **(R/C)**	• Drip Control Zone Kit **(R/C)** • TSJ-PRS **(R/C)**
Run-off (due to compacted soil, slopes or over-watering)	Seal-A-Matic™/check valve products	Prevent water from draining out of the irrigation system at the lowest head, eliminating puddling, erosion and run-off.	• UNI-Spray™ with SAM **(R)** • 1800-SAM **(R/C)** • 1800-SAM-PRS **(R/C)** • 3500-SAM **(R)** • 5000-SAM **(R/C)** • 5505-SAM **(R/C)** • 6504-SAM **(C)** • 7005-SAM **(C)** • 8005-SAM **(C)**		
	High efficiency nozzles	Provide uniform distribution of water, eliminating run-off on slopes or compacted soil and reducing water usage up to 30%.	• U-Series Nozzles **(R/C)** • Rain Curtain™ Nozzles **(R/C)** • Rotary Nozzles **(R/C)** • 5000/5000 Plus MPR Nozzles **(R/C)**		
	Controllers with multiple start times	Allow several shorter and more precise run times to prevent run-off and puddles.		• All Controllers **(R/C)**	
	Controllers with Cycle + Soak™	Applies water at a rate that the soil can more easily absorb, reducing erosion, run-off and waste.		• ESP-MC **(C)** • ESP-LX Modular **(R/C)**	• Maxicom² **(C)** • SiteControl **(C)**
	Direct-to-plant-root watering devices	Deliver precise amounts of water at or near plant root zones for maximum efficiency. By providing nourishment directly to root systems, water is used more efficiently, plants are healthier, and run-off and over-spray are eliminated.			• Landscape Drip/ Xerigation products **(R/C)** • Root Watering System **(R/C)** • Irrigation Supplement **(R/C)**
Over-watering (due to weather and seasonal changes)	Automatic shut-off devices	Automatically shut off the controller when it is raining or when sufficient soil moisture is detected, resulting in water savings of 15-20%.			• Rain Sensor **(R/C)**
	Controllers with Rain Delay feature	Postpones the irrigation schedule when watering isn't needed and automatically resumes watering when appropriate.		• ESPLX+/LXi+ **(R/C)** • ESP-MC **(C)** • ESP-LX Modular **(R/C)**	• Maxicom² **(C)** • SiteControl **(C)** • MDC **(C)**
	Controllers with Water Budget feature	Provides easy and flexible adjustments to the amount of water used for irrigation to accommodate seasonal changes.		• Ec **(R)** • ESP Modular **(R)** • ESP-LX Modular **(R/C)** • ESPLX+/LXi+ **(R/C)** • ESP-MC **(C)**	• Maxicom² **(C)** • SiteControl **(C)** • MDC **(C)**
	Controllers with ET Programming	Enables the controller to apply only the water required by the landscape to reduce water consumption and maintain a healthy landscape.		• ET Manager **(R/C)**	• Maxicom² **(C)** • SiteControl **(C)**
Over-watering (due to varying plant types and environmental conditions)	Controllers with multiple independent programs	Offer the flexibility to water various landscape zones at different times and for varying durations to prevent water waste.		• Ec **(R)** • ESP Modular **(R)** • ESP-LX Modular **(R/C)** • ESP-LX+/LXi+ **(R/C)** • ESP-MC **(C)**	• Maxicom² **(C)** • SiteControl **(C)** • MDC **(C)**
	Direct-to-plant-root watering devices	Offer the flexibility of applying different amounts of water to plants based on their individual needs.			• Landscape Drip/ Xerigation products **(R/C)**

R - Residential applications **R/C** - Residential and Commercial applications **C** - Commercial applications

How to Use This Catalog

The 2007 - 2008 Rain Bird Landscape Irrigation Products Catalog

is designed to provide you with product and application information in a clear, easy-to-use format. In the "How to Use This Catalog" section, we introduce you to elements you will likely encounter on specific product pages.

At the beginning of each section, we've included product application matrices. These are general guides to the products' primary areas of use and are intended to help you choose the right Rain Bird products for your specific needs.

We have included formulas showing how we calculate precipitation rates, as well as lists of abbreviations used in the product sections.

Cutaways
Our cutaway illustrations let you see the unique innovations and features which make a specific Rain Bird product the industry's best.

Charts
Performance charts with both standard and metric measurements give you easy access to the product capability information you need. To convert from Bars to kPa, use 1 Bar = 100 kPa.

Precipitation Rates
Rain Bird has calculated for you the precipitation rates for our comprehensive lines of impacts, sprays, and rotors. These rates are an indication of the approximate rate at which water is being applied. The equations used to calculate the precipitation rates are as follows:

■ **Square Spacing**

U.S.: $PR = \frac{96.3 \times GPM}{S \times S}$

Metric: $PR = \frac{1000 \times m^3/h}{S \times S}$

▲ **Triangular Spacing**

U.S.: $PR = \frac{96.3 \times GPM}{S \times L}$

Metric: $PR = \frac{1000 \times m^3/h}{S \times L}$

96.3 = Constant (inches/square foot/hour)
1000 = Constant (millimeter/square meter/hour)
GPM = Gallons per minute (applied to area by sprinklers)
m^3/h = Cubic meters per hour (applied to area by sprinklers)
S = Spacing between sprinklers
L = Spacing between rows (S x 0.866)

Specification Information

The information in this catalog was accurate at the time of printing and may be used for proper specification of each product. For the most up-to-date information, go to Rain Bird's web site at www.rainbird.com.

Abbreviations

The following abbreviations are used throughout this catalog:

Spray Heads

A
Model Designation Only
B
Bubbler or Brass
CST
Center Strip
EST
End Strip
F
Full Circle
FLT
Flat Spray
H
Half-Circle
LA
Low Angle Nozzle
LCS
Left Corner Strip
PCS
Pressure Compensating Screen
PRS
Pressure Regulating Stem
Q
Quarter-Circle
RCS
Right Corner Strip
SAM
Seal-A-Matic™ Check Valve
SLA
Low Angle Stream Spray
SQ
Square
SS
Stream Spray
SST
Side Strip
T
Third-Circle
TQ
Three-Quarter Circle
TT
Two-Third Circle

Rotors

A
Model Designation Only
B
Model Designation Only
FC
Full-Circle
LA
Low Angle Nozzle
PC
Part-Circle
S
Shrub Model
SAM
Internal Stopamatic®
or Seal-A-Matic™ Check Valve

Impacts

A
Model Designation Only
ADJ
Adjustable Distance Control Diffuser Pin
B
Model Designation Only
DA
Distance Control Flap
FP
Trip (permits full- or part-circle operation)
LA
Low Angle Nozzle
PJ
Precision Jet Tube
TNT
Bearing Designation

Valves

CP
Contamination Proof
PRS
Pressure Regulating Module

Controllers

SS
Stainless Steel Pedestal Cabinet
WM
Wall Mount Cabinet

Central Controls

SAT
Satellite Controller
SS
Stainless Steel Pedestal Cabinet
TW
Two Wire Communication Path
WM
Wall Mount Cabinet

Note:

1: For all impact sprinklers, stated psi refers to the operating pressure at the nozzle.

2: For all impact rotor pop-up sprinklers, stated psi refers to the operating pressure at the base.

3: Precipitation rates are given for reference only.

4: For spacing recommendations, consult your irrigation specialist.

ASAE Test Certification Statement

Rain Bird Corporation certifies that pressure, flow rate, and radius data for its products were determined and listed in accordance with ASAE Standard S398.1, Procedure for Sprinkler Testing and Performance Reporting, and are representative of performance of production sprinklers at the time of publication. Actual product performance may differ from the published specifications due to normal manufacturing variations and sample selection. All other specifications are solely the recommendations of Rain Bird Corporation.

Customer Service

At Rain Bird, we believe when you purchase our products, you should also receive the support you need to ensure that they perform as designed. Like our products, Rain Bird customer service is designed to exceed expectations. When you call with questions about orders or new products, you get the support you need from the top water management professionals in the industry – support that originates from our headquarters in Glendora, California, or our Customer Service Center in Tucson, Arizona and is backed by our vast global network of distributor-partners.

Worry-Free Warranties

Our comprehensive product warranties make it even easier to choose Rain Bird and relax. All Rain Bird' Turf products are warranted to the trade for a period of either three or five years from the date of original purchase.

A Rain Bird warranty is the hassle-free support irrigation system professionals require to maintain peak performance. For you, it's the added peace of mind of knowing Rain Bird is there when you need it.
For details about Rain Bird's Turf products, refer to page 270.

Technical Support

Rain Bird Technical Support has the answers to all of your specific product and water-management questions. Call our toll-free Technical Service or Spec Hotline numbers, or for maximum convenience, access the Rain Bird web site via your personal computer. You'll get expert advice and the right solutions.

Technical Service
1-800-RAINBIRD

Spec Hotline
1-800-458-3005

Internet Address
www.rainbird.com

To find the nearest authorized distributor in your area, visit www.rainbird.com

New Products

New products are located on the following pages:

Spray Heads

MPR Series Nozzles - 15LCS, 15RCS spray patterns page 16

Rotors

5000/5000 Plus PRS Series page 51

Controllers

ESP-LX Modular page 138

Controllers

ET Manager page 142

Central Controls

IQ™ Central Control page 154

Central Controls

LXM-DTC Satellite Controller page 155

New Products (cont.)

Xerigation® / Landscape Drip

Xeri-Flex Dripline page 208

Xerigation® / Landscape Drip

Tubing Cutter - NEW DESIGN! page 220

Improved dual-well design allows for clean cuts.

Xerigation® / Landscape Drip

Xeri-Pressure Compensating Nozzles page 200

- **Xeri-Pressure Compensating Nozzle installed on Polyflex Riser with Nozzle Adapter**

Spray Head Accessories

Root Watering System - RWS-Mini and RWS-Shrub page 37

Spray Heads

Dominating the world's landscapes for decades.

Contractors and specifiers choose Rain Bird® spray heads and nozzles more often than all other brands combined. For some, the reason is a proven track record of performance that spans nearly three decades. Others praise the reliability, durability or nearly 90 nozzle options. Whatever the reason, Rain Bird spray heads and nozzles continue to be the dominant choice.

Install Confidence®
Install Rain Bird® Spray Heads and Nozzles.

Major Products

Primary Applications	1802	1803	1804	1806	1812	1800 PRS	1800 SAM	1800 SAM-PRS	US-200	US-400	US-600	PA-8S	PA-8S-PRS	1300/1400 Bubblers
Turfgrass	●	●	●	●		●	●	●	●	●	●			
Slopes							●	●			●*			
Ground Cover/Shrubs	●	●	●	●	●	●	●	●	●	●	●	●	●	●
High Pressure Systems						●		●					●	●
Low Pressure Systems	●	●	●	●	●				●	●	●	●		●
High Wind Areas	●	●	●	●	●	●	●	●	●	●	●	●	●	●

*Optional US-SAM check valve is retrofittable on all UNI-Sprays

1800® Series

2", 3", 4", 6", 12" (5,1 cm; 7,6 cm; 10,2 cm; 15,2 cm; 30,5 cm)

- Co-molded wiper seal is molded into the cap and features an encased plastic "cage" to provide unmatched resistance to grit, pressure, and the environment. Additionally, the pressure-activated, multi-function seal design assures a positive seal without excess "flow-by" which enables more heads to be installed on the same valve.
- Strong stainless steel spring provides reliable stem retraction.
- Two-piece ratchet mechanism on all models allows easy nozzle pattern alignment and provides added durability.

Features

- Precision controlled flush at pop-down clears debris from unit, assuring positive stem retraction in all soil types.
- Pre-installed orange 1800 Pop-Top™ flush plug blocks debris, larger than nozzle filter screen openings, from entering after flushing. Allows for easy nozzle installation.
- Constructed of time-proven UV-resistant plastic and corrosion resistant stainless steel parts, assuring long product life.
- All sprinkler components are removable from the top without special tools, providing for quick and easy flushing and maintenance of the sprinkler.
- Side and bottom inlets featured on 1806 and 1812 models*.
- Five-year trade warranty.

Operating Range

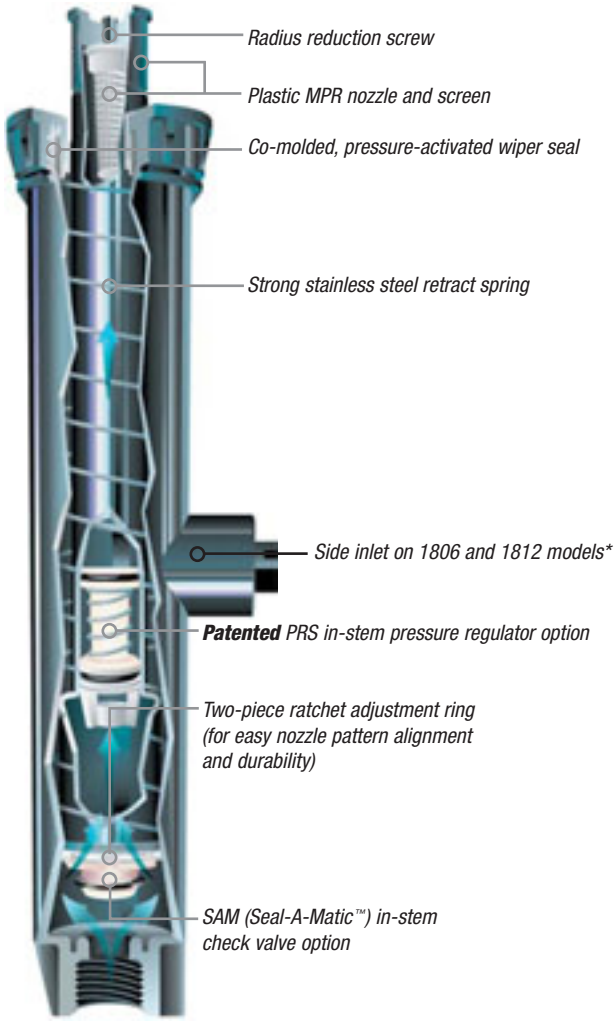
- Spacing: 3 to 20 feet (0,9 to 6,1 m)
- Pressure: 15 to 70 psi (1,0 to 4,8 bars)

Specifications

- Flow-by: 0 at 8 psi (0,6 bar) or greater; 0.10 GPM (0,02 m^3/h; 0,36 l/m) otherwise

Dimensions/Models

- ½" (15/21) NPT female threaded inlet
- Models and height:
  1802: 4" (10,2 cm) body height; 2" pop-up height (5,1 cm)
  1803: 4⅞" (12,4 cm) body height; 3" pop-up height (7,6 cm)
  1804: 6" (15,2 cm) body height; 4" pop-up height (10,2 cm)
  1806: 9⅜" (23,8 cm) body height; 6" pop-up height (15,2 cm)
  1812: 16" (40,6 cm) body height; 12" pop-up height (30,5 cm)
- Exposed surface diameter: 2¼" (5,7 cm)



1804 - 15H

Nozzle Series/Pattern
15H
15 Series
MPR nozzle with half-circle pattern

Model
1804
4" (10,2 cm) pop-up height

● 1800 Series

** 1806 and 1812-SAM and SAM-PRS units do not have a side inlet.*

1800®-SAM Series

4", 6", 12" (10,2 cm, 15,2 cm, 30,5 cm)

- Built-in Seal-A-Matic™ (SAM) check valve. Eliminates the need for under-the-head check valves. No parts to be installed at the site.
- Traps water in lateral pipes in elevation changes of up to 14 feet (4,2 m). Reduces wear on system components by minimizing water hammer during start-up.
- Even stronger retract spring to accommodate elevation changes up to 14 feet (4,2 m). One of the strongest springs in the industry.

Features

- Prevents drainage from spray heads at lower elevations. Stops water waste. Ends landscape damage due to flooding and/or erosion.
- Designed for use with all Rain Bird plastic spray head nozzles.
- "SAM" stamped on cap for easy identification and maintenance.
- Five-year trade warranty.

Operating Range

- Spacing: 3 to 20 feet (0,9 to 6,1 m)
- Pressure: 25 to 70 psi (1,7 to 4,8 bars)

Specifications

- SAM capability: holds up to 14 feet (4,2 m) of head; 6 psi (0,4 bar)
- Flow-by: 0 at 8 psi (0,6 bar) or greater; 0.10 GPM (0,11 m^3/h; 1,80 l/m) otherwise

Dimensions

- ½" (15/21) female threaded inlets
- Body height:
  1804 SAM: 6" (15,2 cm)
  1806 SAM: 9⅜" (23,8 cm)
  1812 SAM: 16" (40,6 cm)
- Exposed surface diameter:
  2¼" (5,7 cm)

Models

- 1804 SAM: 4" pop-up height (10,2 cm)
- 1806 SAM: 6" pop-up height (15,2 cm)
- 1812 SAM: 12" pop-up height (30,5 cm)

1800®-PRS Series

4", 6", 12" (10,2 cm, 15,2 cm, 30,5 cm)

- Patented PRS pressure regulator built into the stem. No parts to be installed at the site. Saves time and money.
- Maintains constant outlet pressure at 30 psi (2,1 bars). Spray heads and nozzles perform best at 30 psi. Ensures maximum spray head and nozzle performance, even with varying inlet pressures. Maintains constant pressure regardless of nozzle used.
- Ends misting and fogging caused by high pressure. Stops water waste. Ensures necessary watering occurs in high pressure or wind conditions.

Features

- Restricts water loss by up to 70% if nozzle is removed or damaged. Saves water and money. Reduces possibility of accidents and property damage. Recommended for vandal prone areas.
- Designed for use with all Rain Bird plastic spray head nozzles.
- "PRS" stamped on cap for easy identification and maintenance.
- Five-year trade warranty.

Operating Range

- Spacing: 3 to 20 feet (0,9 to 6,1 m)
- Pressure: 15 to 70 psi (1,0 to 4,8 bars)

Specifications

- Regulates nozzle pressure to an average 30 psi (2,1 bars) with inlet pressures of up to 70 psi (5,0 bars) (see graph)
- Flow-by: 0 at 8 psi (0,6 bar) or greater; 0.10 GPM (0,02 m^3/h; 0,36 l/m) otherwise
- Installation: side or bottom inlet
- Side inlet installation not recommended in freezing climates

1800®-SAM-PRS Series

4", 6", 12" (10,2 cm, 15,2 cm, 30,5 cm)

- Incorporates all 1800 Series SAM and PRS features.
- Meets the needs of all spray areas, regardless of changing elevation or water pressures.
- "SAM-PRS" stamped on the cap for easy identification and maintenance.

Dimensions

- ½" (15/21) female threaded inlets
- Body height:
  1804 PRS: 6" (15,2 cm)
  1806 PRS: 9⅜" (23,8 cm)
  1812 PRS: 16" (40,6 cm)
- Exposed surface diameter: 2¼" (5,7 cm)

Models

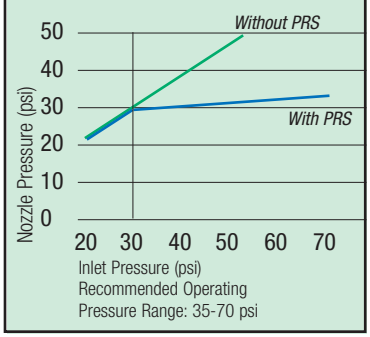
- 1804 PRS: 4" pop-up height (10,2 cm)
- 1806 PRS: 6" pop-up height (15,2 cm)
- 1812 PRS: 12" pop-up height (30,5 cm)

● SAM

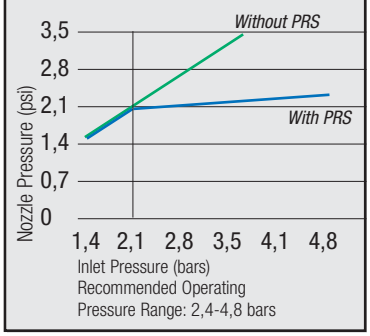
● PRS

● SAM-PRS

1800-PRS Performance



1800-PRS Performance METRIC



Operating Range

- Spacing: 3 to 20 feet (0,9 to 6,1 m)
- Pressure: 25 to 70 psi (1,7 to 4,8 bars)

Specifications

- SAM capability: holds up to 14 feet (4,2 m) of head; 6 psi (0,4 bar)
- Flow-by: 0 at 8 psi (0,6 bar) or greater;
  0.50 GPM (0,11 m³/h; 1,80 l/m) otherwise

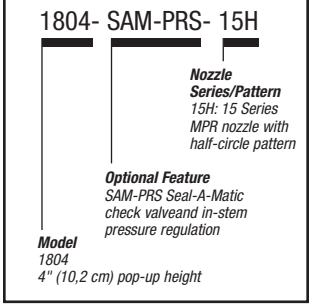
Dimensions

- ½" (15/21) female threaded inlets
- Body height:
  1804 SAM-PRS: 6" (15,2 cm)
  1806 SAM-PRS: 9 ⅜" (23,8 cm)
  1812 SAM-PRS: 16" (40,6 cm)
- Exposed surface diameter: 2 ¼" (5,7 cm)

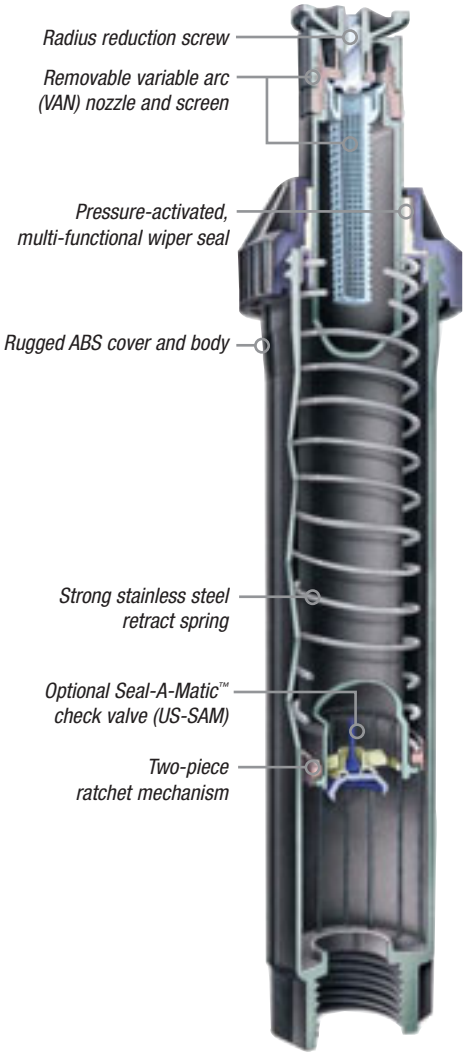
Models

- 1804 SAM-PRS: 4" pop-up height (10,2 cm)
- 1806 SAM-PRS: 6" pop-up height (15,2 cm)
- 1812 SAM-PRS: 12" pop-up height (30,5 cm)

How To Specify



Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.



UNI-Spray™ Series

2", 4", 6" (5,1 cm, 10,2 cm, 15,2 cm)

- Pressure-activated, multi-functional wiper seal prevents excessive flow-by and water waste. Keeps debris from entering upon retraction.
- Durable two-piece stem ratchet allows for quick and easy nozzle pattern alignment.
- Rugged cover and body provide durability in high pressure and surge conditions.

Features

- VAN nozzle and screen are easily removable for flushing.
- Internal parts removable from the top of the sprinkler for easy servicing.
- Small exposed cover makes the unit virtually invisible for more attractive landscapes.
- UNI-Spray™ accepts all Rain Bird® nozzles and accessories, which simplifies inventory management.
- Plastic and stainless steel materials resist corrosion.
- Economical 6-inch (15,2 cm) pop-up model provides for unobstructed watering of today's taller turf grass varieties.
- Optional field installable Seal-A-Matic™ check valve prevents low head drainage up to 8 feet (2,4 m) of elevation difference.

Operating Range (for pre-installed nozzle choices)

- Spacing: 10 VAN Series: 8 to 10 feet (2,4 to 3,0 m)
- 12 VAN Series: 10 to 12 feet (3,0 to 3,7 m)
- 15 VAN Series: 12 to 15 feet (3,7 to 4,6 m)
- 18 VAN Series: 14 to 18 feet (4,3 to 5,5 m)
- Pressure: 15 to 70 psi (1,0 to 4,8 bars)
- Optimum Pressure: 30 psi (2 bars)
- Adjustable nozzle arc range: 0° - 360°

How To Specify

US - 4 - 15VAN

Nozzle Series/Pattern
VAN nozzle with variable arc

Body
4"(10,2 cm)

Model
UNI-Spray

● **UNI-Spray**

● **Variable Arc Nozzles (10, 12, 15 or 18 feet) may be ordered pre-installed**

Specifications

- Flow-by: 0 at 10 psi (0,75 bar) or greater; 0.20 GPM (0,04 m^3/h; 0,60 l/m) otherwise

Dimensions

- ½" (15/21) NPT female threaded inlet
- Body height:
  US-200: 3¾" (9,5 cm)
  US-400: 5 ⅞" (14,9 cm)
  US-600: 8¼" (21,0 cm)
- Exposed surface diameter: 1¼" (3,2 cm)

Models*

- US-200: 2" pop-up height (5,1 cm)
- US-400: 4" pop-up height (10,2 cm)
- US-600: 6" pop-up height (15,2 cm)
- US-210 VAN 2" pop-up height (5,1 cm) with 10-VAN attached
- US-410 VAN 4" pop-up height (10,2 cm) with 10-VAN attached
- US-212 VAN 2" pop-up height (5,1 cm) with 12-VAN attached
- US-412 VAN 4" pop-up height (10,2 cm) with 12-VAN attached
- US-215 VAN 2" pop-up height (5,1 cm) with 15-VAN attached
- US-415 VAN 4" pop-up height (10,2 cm) with 15-VAN attached
- US-418 VAN 4" pop-up height (10,2 cm) with 18-VAN attached
- US-SAM UNI-Spray™ field installed check valve

** The UNI-Spray™ sprinkler body accepts all Rain Bird nozzles.*

Plastic MPR Nozzles

Matched Precipitation Rate Nozzles

- Matched precipitation rates across sets and across patterns in 5 Series, 8 Series, 10 Series, 12 Series, and 15 Series for even water distribution and design flexibility.
- 5 Series nozzles meet small-area shrub or turf requirements.
- 8 Series nozzles now have a lower water flow, which allows more spray heads per zone.

Features

- 1800 Series white filter (.035" x .035") screens (shipped with nozzles) maintain precise radius adjustment and prevent clogging. (5 and 8 Series nozzles are shipped with blue fine-mesh (.02" x .02") filter screens.)
- Stainless steel adjustment screw to adjust flow and radius.

Operating Range

- Spacing: 3 to 20 feet (0,9 to 4,6 m)
- Pressure: 15 to 30 psi (1 to 2,1 bars)
- Optimum pressure: 30 psi (2,1 bars)*

** Rain Bird recommends using 1800 PRS spray heads to maintain optimum nozzle performance in higher pressure situations.*

Models

- 5 Series
- 5 Series: bubbler nozzles
- 8 Series
- 8 FLT Series
- 10 Series
- 12 Series
- 15 Series
- 15 Strip Series
- NEW - 15 LCS: 4 x 15 spray pattern
- NEW - 15 RCS: 4 x 15 spray pattern

● MPR Nozzle & Screen

Re-sealable Nozzle Packaging

Features

- Convenient re-sealable bags
- Separate, detachable nozzle and screen pouches
- Tamper proof seal
- Hanging holes for easy display

● Re-sealable Nozzle Packaging

5 Series MPR

5° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
5F	15	3	0.29	2.07	2.39
	20	4	0.33	2.01	2.32
	25	4	0.37	1.62	1.87
	30	5	0.41	1.58	1.83
5H	15	3	0.14	2.07	2.39
	20	4	0.16	2.01	2.32
	25	4	0.18	1.62	1.87
	30	5	0.20	1.58	1.83
5T	15	3	0.09	2.07	2.39
	20	4	0.11	2.01	2.32
	25	4	0.12	1.62	1.87
	30	5	0.13	1.58	1.83
5Q	15	3	0.07	2.07	2.39
	20	4	0.08	2.01	2.32
	25	4	0.09	1.62	1.87
	30	5	0.10	1.58	1.83

5 Series MPR **METRIC**

5° Trajectory

Nozzle	Pressure bars	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
5F	1,0	1,1	0,06	1,1	52	60
	1,5	1,3	0,08	1,3	47	55
	2,0	1,5	0,09	1,5	41	48
	2,1	1,5	0,09	1,6	40	46
5H	1,0	1,1	0,03	0,5	52	60
	1,5	1,3	0,04	0,7	47	55
	2,0	1,5	0,04	0,7	41	48
	2,1	1,5	0,05	0,8	40	46
5T	1,0	1,1	0,02	0,4	52	60
	1,5	1,3	0,02	0,4	47	55
	2,0	1,5	0,03	0,5	41	48
	2,1	1,5	0,03	0,5	40	46
5Q	1,0	1,1	0,02	0,2	52	60
	1,5	1,3	0,02	0,3	47	55
	2,0	1,5	0,02	0,4	41	48
	2,1	1,5	0,02	0,4	40	46

Note: *All MPR nozzles tested on 4" (10,2 cm) pop-ups.*

■ *Square spacing based on 50% diameter of throw.*

■ *Triangular spacing based on 50% diameter of throw.*

Performance data taken in zero wind conditions.

Note: *Specify spray head body and nozzles separately. Refer to Price List for shipping unit quantities.*

Note: *Radius reduction over 25% of the normal throw of the nozzle is not recommended.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

8 Series MPR

10° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
8F 	15	5	0.74	2.07	2.39
	20	6	0.86	2.01	2.32
	25	7	0.96	1.62	1.87
	30	8	1.05	1.58	1.83
8H 	15	5	0.37	2.07	2.39
	20	6	0.42	2.01	2.32
	25	7	0.47	1.62	1.87
	30	8	0.52	1.58	1.83
8T 	15	5	0.25	2.07	2.39
	20	6	0.29	2.01	2.32
	25	7	0.32	1.62	1.87
	30	8	0.35	1.58	1.83
8Q 	15	5	0.18	2.07	2.39
	20	6	0.21	2.01	2.32
	25	7	0.24	1.62	1.87
	30	8	0.26	1.58	1.83

8 Series MPR METRIC

10° Trajectory

Nozzle	Pressure bars	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
8F 	1,0	1,7	0,16	2,8	52	60
	1,5	2,1	0,20	3,4	47	55
	2,0	2,4	0,23	3,9	41	48
	2,1	2,4	0,24	4,0	40	46
8H 	1,0	1,7	0,08	1,4	52	60
	1,5	2,1	0,10	1,7	47	55
	2,0	2,4	0,12	1,9	41	48
	2,1	2,4	0,12	2,0	40	46
8T 	1,0	1,7	0,05	1,0	52	60
	1,5	2,1	0,07	1,1	47	55
	2,0	2,4	0,08	1,3	41	48
	2,1	2,4	0,08	1,3	40	46
8Q 	1,0	1,7	0,04	0,7	52	60
	1,5	2,1	0,05	0,8	47	55
	2,0	2,4	0,06	1,0	41	48
	2,1	2,4	0,06	1,0	40	46

10 Series MPR

15° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
10F 	15	7	1.16	2.28	2.63
	20	8	1.30	1.96	2.26
	25	9	1.44	1.71	1.98
	30	10	1.58	1.52	1.75
10H 	15	7	0.58	2.28	2.63
	20	8	0.65	1.96	2.26
	25	9	0.72	1.71	1.98
	30	10	0.79	1.52	1.75
10T 	15	7	0.39	2.28	2.63
	20	8	0.43	1.96	2.26
	25	9	0.48	1.71	1.98
	30	10	0.53	1.52	1.75
10Q 	15	7	0.29	2.28	2.63
	20	8	0.33	1.96	2.26
	25	9	0.36	1.71	1.98
	30	10	0.39	1.52	1.75

10 Series MPR METRIC

15° Trajectory

Nozzle	Pressure bars	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
10F 	1,0	2,1	0,26	4,2	58	67
	1,5	2,4	0,29	2,4	50	58
	2,0	3,0	0,35	6,0	39	45
	2,1	3,1	0,36	6,0	37	43
10H 	1,0	2,1	0,13	2,4	58	67
	1,5	2,4	0,14	2,4	50	58
	2,0	3,0	0,18	3,0	39	45
	2,1	3,1	0,18	3,0	37	43
10T 	1,0	2,1	0,09	1,2	58	67
	1,5	2,4	0,10	1,8	50	58
	2,0	3,0	0,12	1,8	39	45
	2,1	3,1	0,12	1,8	37	43
10Q 	1,0	2,1	0,06	1,2	58	67
	1,5	2,4	0,07	1,2	50	58
	2,0	3,0	0,09	1,2	39	45
	2,1	3,1	0,09	1,2	37	43

Note: *All MPR nozzles tested on 4" (10,2 cm) pop-ups.*

■ *Square spacing based on 50% diameter of throw.*

■ *Triangular spacing based on 50% diameter of throw.*

Performance data taken in zero wind conditions.

Note: *Specify spray head body and nozzles separately. Refer to Price List for shipping unit quantities.*

Note: *Radius reduction over 25% of the normal throw of the nozzle is not recommended.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

12 Series MPR

30° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
12F	15	9	1.80	2.14	2.47
	20	10	2.10	2.02	2.34
	25	11	2.40	1.91	2.21
	30	12	2.60	1.74	2.01
12TQ	15	9	1.35	2.14	2.47
	20	10	1.58	2.02	2.34
	25	11	1.80	1.91	2.21
	30	12	1.95	1.74	2.01
12TT	15	9	1.20	2.14	2.47
	20	10	1.40	2.02	2.34
	25	11	1.60	1.91	2.21
	30	12	1.74	1.74	2.01
12H	15	9	0.90	2.14	2.47
	20	10	1.05	2.02	2.34
	25	11	1.20	1.91	2.21
	30	12	1.30	1.74	2.01
12T	15	9	0.60	2.14	2.47
	20	10	0.70	2.02	2.34
	25	11	0.80	1.91	2.21
	30	12	0.87	1.74	2.01
12Q	15	9	0.45	2.14	2.47
	20	10	0.53	2.02	2.34
	25	11	0.60	1.91	2.21
	30	12	0.65	1.74	2.01

12 Series MPR METRIC

30° Trajectory

Nozzle	Pressure bars	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
12F	1,0	2,7	0,40	6,8	55	63
	1,5	3,2	0,48	8,3	47	54
	2,0	3,6	0,59	9,7	46	53
	2,1	3,7	0,60	9,8	44	51
12TQ	1,0	2,7	0,30	5,1	55	63
	1,5	3,2	0,36	6,3	47	54
	2,0	3,6	0,45	7,3	46	53
	2,1	3,7	0,45	7,4	44	51
12TT	1,0	2,7	0,26	4,6	55	63
	1,5	3,2	0,32	5,6	47	54
	2,0	3,6	0,40	6,5	46	53
	2,1	3,7	0,40	6,6	44	51
12H	1,0	2,7	0,20	3,4	55	63
	1,5	3,2	0,24	4,2	47	54
	2,0	3,6	0,30	4,9	46	53
	2,1	3,7	0,30	4,9	44	51
12T	1,0	2,7	0,13	2,3	55	63
	1,5	3,2	0,16	2,8	47	54
	2,0	3,6	0,20	3,2	46	53
	2,1	3,7	0,20	3,3	44	51
12Q	1,0	2,7	0,10	1,7	55	63
	1,5	3,2	0,12	2,1	47	54
	2,0	3,6	0,15	2,4	46	53
	2,1	3,7	0,15	2,5	44	51

Note: *All MPR nozzles tested on 4" (10,2 cm) pop-ups.*

■ *Square spacing based on 50% diameter of throw.*

■ *Triangular spacing based on 50% diameter of throw.*

Performance data taken in zero wind conditions.

Note: *Specify spray head body and nozzles separately. Refer to Price List for shipping unit quantities.*

Note: *Radius reduction over 25% of the normal throw of the nozzle is not recommended.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

15 Series MPR

30° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
15F 	15	11	2.60	2.07	2.39
	20	12	3.00	2.01	2.32
	25	14	3.30	1.62	1.87
	30	15	3.70	1.58	1.83
15TQ 	15	11	1.95	2.07	2.39
	20	12	2.25	2.01	2.32
	25	14	2.48	1.62	1.87
	30	15	2.78	1.58	1.83
15TT 	15	11	1.74	2.07	2.39
	20	12	2.01	2.01	2.32
	25	14	2.21	1.62	1.87
	30	15	2.48	1.58	1.83
15H 	15	11	1.30	2.07	2.39
	20	12	1.50	2.01	2.32
	25	14	1.65	1.62	1.87
	30	15	1.85	1.58	1.83
15T 	15	11	0.87	2.07	2.39
	20	12	1.00	2.01	2.32
	25	14	1.10	1.62	1.87
	30	15	1.23	1.58	1.83
15Q 	15	11	0.65	2.07	2.39
	20	12	0.75	2.01	2.32
	25	14	0.82	1.62	1.87
	30	15	0.92	1.58	1.83

15 Series MPR METRIC

30° Trajectory

Nozzle	Pressure bars	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
15F 	1,0	3,4	0,60	9,8	52	60
	1,5	3,9	0,72	11,8	47	55
	2,0	4,5	0,84	13,7	41	48
	2,1	4,6	0,84	14,0	40	46
15TQ 	1,0	3,4	0,45	7,4	52	60
	1,5	3,9	0,54	8,8	47	55
	2,0	4,5	0,63	10,3	41	48
	2,1	4,6	0,63	10,5	40	46
15TT 	1,0	3,4	0,40	6,6	52	60
	1,5	3,9	0,48	7,9	47	55
	2,0	4,5	0,55	9,2	41	48
	2,1	4,6	0,56	9,4	40	46
15H 	1,0	3,4	0,30	4,9	52	60
	1,5	3,9	0,36	5,9	47	55
	2,0	4,5	0,42	6,8	41	48
	2,1	4,6	0,42	7,0	40	46
15T 	1,0	3,4	0,20	3,3	52	60
	1,5	3,9	0,24	3,9	47	55
	2,0	4,5	0,28	4,6	41	48
	2,1	4,6	0,28	4,7	40	46
15Q 	1,0	3,4	0,15	2,5	52	60
	1,5	3,9	0,18	2,9	47	55
	2,0	4,5	0,21	3,4	41	48
	2,1	4,6	0,21	3,5	40	46

Note: *All MPR nozzles tested on 4" (10,2 cm) pop-ups.*

■ *Square spacing based on 50% diameter of throw.*

■ *Triangular spacing based on 50% diameter of throw.*

Performance data taken in zero wind conditions.

Note: *Specify spray head body and nozzles separately. Refer to Price List for shipping unit quantities.*

Note: *Radius reduction over 25% of the normal throw of the nozzle is not recommended.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

15 Strip Series

30° Trajectory

Nozzle	Pressure psi	W x L ft.	Flow GPM
15SQ 	15	18 x 18	2.68
	20	19 x 19	3.06
	25	21 x 21	3.42
	30	23 x 23	3.73
15EST 	15	4 x 13	0.45
	20	4 x 14	0.50
	25	4 x 14	0.56
	30	4 x 15	0.61
15CST 	15	4 x 26	0.89
	20	4 x28	1.00
	25	4x 28	1.11
	30	4 x 30	1.21
15RCS NEW 	15	3 x 11	0.35
	20	3 x 12	0.40
	25	4 x 14	0.45
	30	4 x 15	0.49
15LCS NEW 	15	3 x 11	0.35
	20	3 x 12	0.40
	25	4 x 14	0.45
	30	4 x 15	0.49
15SST 	15	4 x 26	0.89
	20	4 x 28	1.00
	25	4 x 28	1.11
	30	4 x 30	1.21
9SST 	15	9 x 15	1.34
	20	9 x 16	1.47
	25	9 x 18	1.60
	30	9 x 18	1.73

15 Strip Series METRIC

30° Trajectory

Nozzle	Pressure bars	W x L m	Flow m^3/h	Flow l/m
15SQ 	1,0	5,5 x 5,5	0,61	10,1
	1,5	5,8 x 5,8	0,69	12,1
	2,0	6,4 x 6,4	0,78	13,9
	2,1	7,0 x 7,0	0,85	14,1
15EST 	1,0	1,2 x 4,0	0,10	1,7
	1,5	1,2 x 4,3	0,11	2,0
	2,0	1,2 x 4,3	0,13	2,3
	2,1	1,2 x 4,6	0,14	2,3
15CST 	1,0	1,2 x 7,9	0,20	3,4
	1,5	1,2 x 8,5	0,23	4,0
	2,0	1,2 x 8,5	0,25	4,5
	2,1	1,2 x 9,2	0,27	4,6
15RCS NEW 	1,0	0,8 x 3,2	0,08	1,3
	1,5	1,0 x 3,9	0,09	1,6
	2,0	1,2 x 4,5	0,11	1,8
	2,1	1,2 x 4,6	0,11	1,9
15LCS NEW 	1,0	0,8 x 3,2	0,08	1,3
	1,5	1,0 x 3,9	0,09	1,6
	2,0	1,2 x 4,5	0,11	1,8
	2,1	1,2 x 4,6	0,11	1,9
15SST 	1,0	1,2 x 7,9	0,20	3,4
	1,5	1,2 x 8,5	0,23	4,0
	2,0	1,2 x 8,5	0,25	4,5
	2,1	1,2 x 9,2	0,27	4,6
9SST 	1,0	2,7 x 4,6	0,30	5,1
	1,5	2,7 x 4,9	0,33	5,8
	2,0	2,7 x 5,5	0,36	6,5
	2,1	2,7 x 5,5	0,39	6,5

W = *Width of coverage pattern* ***L =*** *Length of coverage pattern*

Note: *Specify spray head body and nozzles separately.*

Refer to Price List for shipping unit quantities.

Note: *Radius reduction over 25% of the normal throw of the nozzle is not recommended.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

5 Series MPR Stream Bubbler Nozzles

0° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM
5F-B	15	5	1.50
	20	5	1.50
	25	5	1.50
	30	5	1.50
5H-B	15	5	1.00
	20	5	1.00
	25	5	1.00
	30	5	1.00
5Q-B	15	5	0.50
	20	5	0.50
	25	5	0.50
	30	5	0.50
5CST-B	15	5	0.50
	20	5	0.50
	25	5	0.50
	30	5	0.50

5 Series MPR Stream Bubbler Nozzles METRIC

0° Trajectory

Nozzle	Pressure bars	Radius m	Flow m^3/h	Flow l/m
5F-B	1,0	1,5	0,35	5,7
	1,5	1,5	0,35	5,7
	2,0	1,5	0,35	5,7
	2,1	1,5	0,35	5,7
5H-B	1,0	1,5	0,23	3,8
	1,5	1,5	0,23	3,8
	2,0	1,5	0,23	3,8
	2,1	1,5	0,23	3,8
5Q-B	1,0	1,5	0,12	1,9
	1,5	1,5	0,12	1,9
	2,0	1,5	0,12	1,9
	2,1	1,5	0,12	1,9
5CST-B	1,0	1,5	0,12	1,9
	1,5	1,5	0,12	1,9
	2,0	1,5	0,12	1,9
	2,1	1,5	0,12	1,9

Note: *Indicates adjusted radius at psi shown.*

Note: *Flow at adjusted radius of 5 feet (1,5 m).*

8 FLT Series MPR

5° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
8F-FLT	15	6	1.11	3.34	3.86
	20	7	1.28	2.89	3.34
	25	7	1.43	2.59	2.99
	30	8	1.57	2.36	2.73
8H-FLT	15	6	0.56	3.36	3.88
	20	7	0.65	2.91	3.36
	25	7	0.72	2.60	3.01
	30	8	0.79	2.38	2.75
8Q-FLT	15	6	0.28	3.32	3.83
	20	7	0.32	2.87	3.32
	25	7	0.36	2.57	2.97
	30	8	0.39	2.35	2.71

8 FLT Series MPR METRIC

5° Trajectory

Nozzle	Pressure bars	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
8F-FLT	1,0	1,7	0,25	4,2	87	100
	1,5	2,1	0,30	5,0	71	82
	2,0	2,4	0,35	5,8	61	71
	2,1	2,4	0,36	5,9	60	69
8H-FLT	1,0	1,7	0,12	2,1	87	101
	1,5	2,1	0,15	2,6	71	82
	2,0	2,4	0,18	2,9	62	71
	2,1	2,4	0,18	3,0	60	70
8Q-FLT	1,0	1,7	0,06	1,1	86	100
	1,5	2,1	0,07	1,3	71	81
	2,0	2,4	0,09	1,4	61	71
	2,1	2,4	0,09	1,5	60	69

Note: *All MPR nozzles tested on 4" (10,2 cm) pop-ups.*

■ *Square spacing based on 50% diameter of throw.*

■ *Triangular spacing based on 50% diameter of throw.*

Performance data taken in zero wind conditions.

Note: *Specify spray head body and nozzles separately. Refer to Price List for shipping unit quantities.*

Note: *Radius reduction over 25% of the normal throw of the nozzle is not recommended.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

VAN Series Nozzles

Variable Arc Nozzles

- Easy arc adjustment from 0° to 360° for 10, 12, 15 and 18-VAN; 0° to 330° for 4, 6 and 8-VAN.
- Simple twist of center collar increases or decreases arc setting.
- 12, 15, and 18-VAN have matched precipitation rates with Rain Bird MPR nozzles.

Features

- Captured screw slot prevents screwdriver strippage.
- No special tools required.
- Stainless steel adjustment screw to adjust flow and radius.
- Tactile left edge indicator
- Ideal for watering odd-shaped areas.
- Shipped with blue filter screen (.02 x .02) to maintain precise radius adjustment and prevent clogging.

Operating Range

- Radius: *
  4-VAN: 3 to 4 feet (0,9 to 1,2 m)
  6-VAN: 4 to 6 feet (1,2 to 1,8 m)
  8-VAN: 6 to 8 feet (1,8 to 2,4 m)
  10-VAN: 8 to 10 feet (2,4 to 3,0 m)
  12-VAN: 10 to 12 feet (3,0 to 3,7 m)
  15-VAN: 12 to 15 feet (3,7 to 4,6 m)
  18-VAN: 14 to 18 feet (4,3 to 5,5 m)
- Pressure: 15 to 30 psi (1,0 to 2,1 bars)
- Optimum pressure: 30 psi (2,1 bars)**

**These ranges are based on proper pressure at nozzle.*
*** Rain Bird recommends using 1800 PRS spray heads to maintain optimum nozzle performance in higher pressure situations.*

Models

- 4-VAN
- 6-VAN
- 8-VAN
- 10-VAN
- 12-VAN
- 15-VAN
- 18-VAN

● Easy to adjust

● VAN Series Nozzle

4 Series VAN

0° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
330° Arc	15	3	0.62	7.23	8.35
	20	3	0.70	8.17	9.43
	25	4	0.80	5.25	6.06
	30	4	0.88	5.78	6.67
270° Arc	15	3	0.52	7.42	8.57
	20	3	0.58	8.27	9.55
	25	4	0.66	5.29	6.11
	30	4	0.73	5.86	6.77
180° Arc	15	3	0.32	6.84	7.90
	20	3	0.37	7.91	9.13
	25	4	0.41	4.93	5.69
	30	4	0.45	5.41	6.25
90° Arc	15	3	0.21	8.98	10.37
	20	3	0.24	10.27	11.86
	25	4	0.26	6.26	7.23
	30	4	0.29	6.98	8.06

4 Series VAN **METRIC**

5° Trajectory

Nozzle	Pressure bars	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
330° Arc	1,0	0,9	0,14	2,3	189	218
	1,5	1,0	0,17	2,8	183	215
	2,0	1,2	0,20	3,3	152	176
	2,1	1,2	0,20	3,3	152	176
270° Arc	1,0	0,9	0,12	2,0	198	229
	1,5	1,0	0,14	2,3	187	216
	2,0	1,2	0,16	2,7	148	171
	2,1	1,2	0,17	2,8	157	181
180° Arc	1,0	0,9	0,07	1,2	173	200
	1,5	1,0	0,09	1,5	180	208
	2,0	1,2	0,10	1,7	139	161
	2,1	1,2	0,10	1,7	139	161
90° Arc	1,0	0,9	0,05	0,8	247	285
	1,5	1,0	0,06	0,9	240	277
	2,0	1,2	0,06	1,1	167	193
	2,1	1,2	0,07	1,1	194	224

Note: *Turning the radius reduction screw may be required to achieve catalog radius and flow when the arc is set at less than maximum arc.*

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

6 Series VAN

0° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
330° Arc	15	4	0.85	5.58	6.44
	20	5	0.96	4.03	4.65
	25	5	1.09	4.58	5.29
	30	6	1.20	3.50	4.04
270° Arc	15	4	0.79	6.34	7.32
	20	5	0.88	4.52	5.22
	25	5	1.00	5.13	5.92
	30	6	1.10	3.92	4.53
180° Arc	15	4	0.42	5.05	5.83
	20	5	0.49	3.77	4.35
	25	5	0.55	4.24	4.90
	30	6	0.60	3.21	3.71
90° Arc	15	4	0.26	6.26	7.23
	20	5	0.30	4.62	5.33
	25	5	0.34	5.24	6.05
	30	6	0.37	3.96	4.57

6 Series VAN — METRIC

0° Trajectory

Nozzle	Pressure bars	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
330° Arc	1,0	1,2	0,19	3,2	144	166
	1,5	1,5	0,23	3,8	112	129
	2,0	1,8	0,27	4,5	91	105
	2,1	1,8	0,27	4,5	91	105
270° Arc	1,0	1,2	0,18	3,0	167	193
	1,5	1,5	0,21	3,5	124	143
	2,0	1,8	0,24	4,1	99	114
	2,1	1,8	0,25	4,2	103	119
180° Arc	1,0	1,2	0,10	1,6	139	161
	1,5	1,5	0,11	1,9	98	113
	2,0	1,8	0,13	2,2	80	92
	2,1	1,8	0,14	2,3	86	99
90° Arc	1,0	1,2	0,06	1,0	167	193
	1,5	1,5	0,07	1,2	124	143
	2,0	1,8	0,08	1,4	99	114
	2,1	1,8	0,08	1,4	99	114

8 Series VAN

5° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
330° Arc	15	6	1.21	3.53	4.07
	20	7	1.36	2.91	3.36
	25	7	1.55	3.32	3.83
	30	8	1.70	2.79	3.22
270° Arc	15	6	1.11	3.95	4.55
	20	7	1.24	3.24	3.74
	25	7	1.41	3.69	4.25
	30	8	1.55	3.10	3.58
180° Arc	15	6	0.84	4.49	5.18
	20	7	0.97	3.81	4.40
	25	7	1.09	4.28	4.94
	30	8	1.19	3.58	4.13
90° Arc	15	6	0.51	5.46	6.29
	20	7	0.59	4.64	5.35
	25	7	0.66	5.19	5.98
	30	8	0.72	4.33	5.00

8 Series VAN — METRIC

5° Trajectory

Nozzle	Pressure bars	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
330° Arc	1,0	1,8	0,27	4,6	91	105
	1,5	2,1	0,32	5,4	79	91
	2,0	2,3	0,38	6,3	78	90
	2,1	2,4	0,39	6,4	74	86
270° Arc	1,0	1,8	0,25	4,2	103	119
	1,5	2,1	0,30	4,9	91	105
	2,0	2,3	0,34	5,8	86	99
	2,1	2,4	0,35	5,9	81	94
180° Arc	1,0	1,8	0,19	3,2	117	135
	1,5	2,1	0,23	3,8	104	120
	2,0	2,3	0,26	4,4	98	113
	2,1	2,4	0,27	4,5	94	109
90° Arc	1,0	1,8	0,12	1,9	148	171
	1,5	2,1	0,14	2,3	127	147
	2,0	2,3	0,16	2,7	121	140
	2,1	2,4	0,16	2,7	111	128

Note: *Turning the radius reduction screw may be required to achieve catalog radius and flow when the arc is set at less than maximum arc.*

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

10 Series VAN

10° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
360° Arc	15	7	1.93	3.80	4.39
	20	8	2.32	3.50	4.04
	25	9	2.52	3.00	3.46
	30	10	2.60	2.50	2.89
270° Arc	15	7	1.45	3.80	4.39
	20	8	1.75	3.50	4.04
	25	9	1.89	3.00	3.46
	30	10	2.10	2.70	3.12
180° Arc	15	7	0.97	3.80	4.39
	20	8	1.20	3.50	4.04
	25	9	1.26	3.00	3.46
	30	10	1.45	2.80	3.23
90° Arc	15	7	0.48	3.80	4.39
	20	8	0.58	3.50	4.04
	25	9	0.63	3.00	3.46
	30	10	0.75	2.90	3.35

10 Series VAN — METRIC

10° Trajectory

Nozzle	Pressure bars	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
360° Arc	1,0	2,1	0,44	7,3	96	111
	1,5	2,4	0,53	9,0	89	103
	2,0	2,7	0,57	9,8	76	88
	2,1	3,1	0,59	9,8	63	73
270° Arc	1,0	2,1	0,33	5,5	96	111
	1,5	2,4	0,4	6,8	89	103
	2,0	2,7	0,43	7,8	76	88
	2,1	3,1	0,48	7,9	68	79
180° Arc	1,0	2,1	0,22	3,7	96	111
	1,5	2,4	0,27	4,6	89	103
	2,0	2,7	0,29	5,3	76	88
	2,1	3,1	0,33	5,5	71	82
90° Arc	1,0	2,1	0,11	1,8	96	111
	1,5	2,4	0,13	2,3	89	103
	2,0	2,7	0,14	2,7	76	88
	2,1	3,1	0,17	2,8	73	85

12 Series VAN

15° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
360° Arc	15	9	1.80	2.14	2.47
	20	10	2.10	2.02	2.34
	25	11	2.40	1.91	2.21
	30	12	2.60	1.74	2.01
270° Arc	15	9	1.35	2.14	2.47
	20	10	1.58	2.02	2.34
	25	11	1.80	1.91	2.21
	30	12	1.95	1.74	2.01
180° Arc	15	9	0.90	2.14	2.47
	20	10	1.05	2.02	2.34
	25	11	1.20	1.91	2.21
	30	12	1.30	1.74	2.01
90° Arc	15	9	0.45	2.14	2.47
	20	10	0.53	2.02	2.34
	25	11	0.60	1.91	2.21
	30	12	0.65	1.74	2.01

12 Series VAN — METRIC

15° Trajectory

Nozzle	Pressure bars	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
360° Arc	1,0	2,7	0,40	6,8	55	63
	1,5	3,2	0,48	8,3	47	54
	2,0	3,6	0,59	9,7	46	53
	2,1	3,7	0,60	9,8	44	51
270° Arc	1,0	2,7	0,30	5,1	55	63
	1,5	3,2	0,36	6,3	47	54
	2,0	3,6	0,45	7,3	46	53
	2,1	3,7	0,45	7,4	44	51
180° Arc	1,0	2,7	0,20	3,4	55	63
	1,5	3,2	0,24	4,2	47	54
	2,0	3,6	0,30	4,8	46	53
	2,1	3,7	0,30	4,9	44	51
90° Arc	1,0	2,7	0,10	1,7	55	63
	1,5	3,2	0,12	2,1	47	54
	2,0	3,6	0,15	2,4	46	53
	2,1	3,7	0,15	2,5	44	51

Note: *Turning the radius reduction screw may be required to achieve catalog radius and flow when the arc is set at less than maximum arc.*

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

15 Series VAN

23° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
360° Arc	15	11	2.60	2.07	2.39
	20	12	3.00	2.01	2.32
	25	14	3.30	1.62	1.87
	30	15	3.70	1.58	1.83
270° Arc	15	11	1.95	2.07	2.39
	20	12	2.25	2.01	2.32
	25	14	2.48	1.62	1.87
	30	15	2.78	1.58	1.83
180° Arc	15	11	1.30	2.07	2.39
	20	12	1.50	2.01	2.32
	25	14	1.65	1.62	1.87
	30	15	1.85	1.58	1.83
90° Arc	15	11	0.65	2.07	2.39
	20	12	0.75	2.01	2.32
	25	14	0.82	1.62	1.87
	30	15	0.92	1.58	1.83

15 Series VAN METRIC

23° Trajectory

Nozzle	Pressure bars	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
360° Arc	1,0	3,4	0,60	9,8	52	60
	1,5	3,9	0,72	11,8	47	55
	2,0	4,5	0,84	13,7	41	48
	2,1	4,6	0,84	14,0	40	46
270° Arc	1,0	3,4	0,45	7,4	52	60
	1,5	3,9	0,54	8,8	47	55
	2,0	4,5	0,63	10,3	41	48
	2,1	4,6	0,63	10,5	40	46
180° Arc	1,0	3,4	0,30	4,9	52	60
	1,5	3,9	0,36	5,9	47	55
	2,0	4,5	0,42	6,9	41	48
	2,1	4,6	0,42	7,0	40	46
90° Arc	1,0	3,4	0,15	2,5	52	60
	1,5	3,9	0,18	2,9	47	55
	2,0	4,5	0,21	3,4	41	48
	2,1	4,6	0,21	3,5	40	46

18 Series VAN

26° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
360° Arc	15	14	4.21	2.07	2.39
	20	15	4.70	2.01	2.32
	25	17	4.86	1.62	1.87
	30	18	5.32	1.58	1.83
270° Arc	15	14	3.16	2.07	2.39
	20	15	3.52	2.01	2.32
	25	17	3.65	1.62	1.87
	30	18	3.99	1.58	1.83
180° Arc	15	14	2.11	2.07	2.39
	20	15	2.35	2.01	2.32
	25	17	2.43	1.62	1.87
	30	18	2.66	1.58	1.83
90° Arc	15	14	1.05	2.07	2.39
	20	15	1.17	2.01	2.32
	25	17	1.22	1.62	1.87
	30	18	1.33	1.58	1.83

18 Series VAN METRIC

26° Trajectory

Nozzle	Pressure bars	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
360° Arc	1,0	4,3	0,96	15,9	52	60
	1,5	4,8	1,07	18,0	47	55
	2,0	5,4	1,20	19,8	41	48
	2,1	5,5	1,21	20,1	40	46
270° Arc	1,0	4,3	0,72	12,0	52	60
	1,5	4,8	0,80	13,5	47	55
	2,0	5,4	0,90	14,8	41	48
	2,1	5,5	0,91	15,1	40	46
180° Arc	1,0	4,3	0,48	8,0	52	60
	1,5	4,8	0,54	9,0	47	55
	2,0	5,4	0,60	9,9	41	48
	2,1	5,5	0,61	10,1	40	46
90° Arc	1,0	4,3	0,24	4,0	52	60
	1,5	4,8	0,27	4,5	47	55
	2,0	5,4	0,30	5,0	41	48
	2,1	5,5	0,30	5,0	40	46

Note: *Turning the radius reduction screw may be required to achieve catalog radius and flow when the arc is set at less than maximum arc.*

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

Plastic U-Series Nozzles

Use 30% Less Water*

- Additional orifice for close-in watering. Minimizes brown spots around spray heads.
- Low Scheduling Coefficient for efficient watering. Use up to 30% less water.**
- Matched precipitation rate between sets and matched flow (GPM, m^3/h and l/m) and precipitation rates with Rain Bird MPR nozzles.

Features

- Greater flexibility. Now, with the new 8' and 10' nozzles, a complete family of fixed arc U-Series nozzles.
- Fine mesh screen protects bottom orifice from debris.
- Stainless steel adjustment screw to adjust flow and radius.
- Five-year trade warranty.
- Fits all Rain Bird spray heads and shrub adapters.

** When U-Series dual-orifice nozzles are installed instead of standard nozzles on every spray head in the zone. Results may vary based on site-specific conditions such as sprinkler spacing, wind, temperature, soil and grass type.*

***Scheduling Coefficient (SC) measures the efficiency of spray heads. SC measures how much more you must water your ENTIRE area for the driest sections to receive sufficient water. The lower the SC, the better the spray heads distribute water.*

Operating Range

- Spacing: 5 to 15 feet (1,8 to 4,6 m)
- Pressure: 15 to 30 psi (1,0 to 2,1 bars)
- Optimum pressure: 30 psi (2,1 bars)*

** Rain Bird recommends using 1800 PRS spray heads to maintain optimum nozzle performance in higher pressure situations.*

Models

- U-8Q: 8-foot quarter-circle pattern nozzle
- U-8T: 8-foot one-third-circle pattern nozzle
- U-8H: 8-foot half-circle pattern nozzle
- U-8F: 8-foot full-circle pattern nozzle
- U-10Q: 10-foot quarter-circle pattern nozzles
- U-10T: 10-foot one-third-circle pattern nozzle
- U-10H: 10-foot half-circle pattern nozzle
- U-10F: 10-foot full-circle pattern nozzle
- U-12Q: 12-foot quarter-circle pattern nozzle
- U-12T: 12-foot one-third-circle pattern nozzle
- U-12H: 12-foot half-circle pattern nozzle
- U-12TT: 12-foot two-thirds-circle pattern nozzle
- U-12TQ: 12-foot three-quarter-circle pattern nozzle
- U-12F: 12-foot full-circle pattern nozzle
- U-15Q: 15-foot quarter-circle pattern nozzle
- U-15T: 15-foot one-third-circle pattern nozzle
- U-15H: 15-foot half-circle pattern nozzle
- U-15TT: 15-foot two-thirds-circle pattern nozzle
- U-15TQ: 15-foot three-quarter-circle pattern nozzle
- U-15F: 15-foot full-circle pattern nozzle

● U-Series Nozzle

● U-Series Nozzle

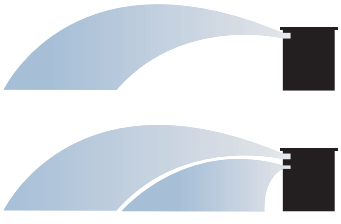
How To Specify

1804 - U12H

Nozzle Series/Pattern
U12H
12 Series
U-Series nozzle with half circle pattern

Model
1804
4" (10,2 cm) pop-up height

Better, more uniform water distribution. Water flowing from both orifices combines to form a continuous water stream. Eliminates gaps for more uniform coverage throughout the entire watering area.



U8 Series

10° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
U-8F	15	5	0.74	2.07	2.39
	20	6	0.86	2.01	2.32
	25	7	0.96	1.62	1.87
	30	8	1.05	1.58	1.83
U-8H	15	5	0.37	2.07	2.39
	20	6	0.42	2.01	2.32
	25	7	0.47	1.62	1.87
	30	8	0.52	1.58	1.83
U-8T	15	5	0.25	2.07	2.39
	20	6	0.29	2.01	2.32
	25	7	0.32	1.62	1.87
	30	8	0.35	1.58	1.83
U-8Q	15	5	0.18	2.07	2.39
	20	6	0.21	2.01	2.32
	25	7	0.24	1.62	1.87
	30	8	0.26	1.58	1.83

U8 Series METRIC

10° Trajectory

Nozzle	Pressure bars	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
U-8F	1,0	1,7	0,16	2,8	52	60
	1,5	2,1	0,20	3,4	47	55
	2,0	2,4	0,23	3,9	41	48
	2,1	2,4	0,24	4,0	40	46
U-8H	1,0	1,7	0,08	1,4	52	60
	1,5	2,1	0,10	1,7	47	55
	2,0	2,4	0,12	1,9	41	48
	2,1	2,4	0,12	2,0	40	46
U-8T	1,0	1,7	0,05	0,9	52	60
	1,5	2,1	0,07	1,1	47	55
	2,0	2,4	0,08	1,3	41	48
	2,1	2,4	0,08	1,3	40	46
U-8Q	1,0	1,7	0,04	0,7	52	60
	1,5	2,1	0,05	0,8	47	55
	2,0	2,4	0,06	1,0	41	48
	2,1	2,4	0,06	1,0	40	46

U10 Series

12° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
U-10F	15	7	1.16	2.07	2.39
	20	8	1.34	2.01	2.32
	25	9	1.50	1.62	1.87
	30	10	1.64	1.58	1.83
U-10H	15	7	0.58	2.07	2.39
	20	8	0.67	2.01	2.32
	25	9	0.75	1.62	1.87
	30	10	0.82	1.58	1.83
U-10T	15	7	0.39	2.07	2.39
	20	8	0.45	2.01	2.32
	25	9	0.50	1.62	1.87
	30	10	0.55	1.58	1.83
U-10Q	15	7	0.29	2.07	2.39
	20	8	0.33	2.01	2.32
	25	9	0.37	1.62	1.87
	30	10	0.41	1.58	1.83

U10 Series METRIC

12° Trajectory

Nozzle	Pressure bars	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
U-10F	1,0	2,1	0,26	4,4	52	60
	1,5	2,6	0,30	5,3	47	55
	2,0	3,0	0,34	6,1	41	48
	2,1	3,1	0,37	6,2	40	46
U-10H	1,0	2,1	0,13	2,2	52	60
	1,5	2,6	0,15	2,6	47	55
	2,0	3,0	0,17	3,1	41	48
	2,1	3,1	0,19	3,1	40	46
U-10T	1,0	2,1	0,09	1,5	52	60
	1,5	2,6	0,10	1,8	47	55
	2,0	3,0	0,11	2,0	41	48
	2,1	3,1	0,12	2,1	40	46
U-10Q	1,0	2,1	0,07	1,1	52	60
	1,5	2,6	0,08	1,3	47	55
	2,0	3,0	0,08	1,5	41	48
	2,1	3,1	0,09	1,6	40	46

Note: *All U-Series nozzles tested on 4" (10,2) pop-ups.*

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Note: *Specify spray head body and nozzle sizes separately.*

Refer to Price List for shipping unit quantities.

Note: *Radius reduction over 25% of the normal throw of the nozzle is not recommended.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

U12 Series

23° Trajectory

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
U-12F	15	9	1.80	2.14	2.47
	20	10	2.10	2.02	2.34
	25	11	2.40	1.91	2.21
	30	12	2.60	1.74	2.01
U-12TQ	15	9	1.35	2.14	2.47
	20	10	1.58	2.02	2.34
	25	11	1.80	1.91	2.21
	30	12	1.95	1.74	2.01
U-12TT	15	9	1.20	2.14	2.47
	20	10	1.40	2.02	2.34
	25	11	1.60	1.91	2.21
	30	12	1.74	1.74	2.01
U-12H	15	9	0.90	2.14	2.47
	20	10	1.05	2.02	2.34
	25	11	1.20	1.91	2.21
	30	12	1.30	1.74	2.01
U-12T	15	9	0.60	2.14	2.47
	20	10	0.70	2.02	2.34
	25	11	0.80	1.91	2.21
	30	12	0.87	1.74	2.01
U-12Q	15	9	0.45	2.14	2.47
	20	10	0.53	2.02	2.34
	25	11	0.60	1.91	2.21
	30	12	0.65	1.74	2.01

U12 Series METRIC

23° Trajectory

Nozzle	Pressure bars	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
U-12F	1,0	2,7	0,40	6,8	55	63
	1,5	3,2	0,48	8,3	47	54
	2,0	3,6	0,59	9,7	46	53
	2,1	3,7	0,60	9,8	44	51
U-12TQ	1,0	2,7	0,30	5,1	55	63
	1,5	3,2	0,36	6,3	47	54
	2,0	3,6	0,45	7,3	46	53
	2,1	3,7	0,45	7,4	44	51
U-12TT	1,0	2,7	0,26	4,5	55	63
	1,5	3,2	0,32	5,6	47	54
	2,0	3,6	0,40	6,5	46	53
	2,1	3,7	0,40	6,6	44	51
U-12H	1,0	2,7	0,20	3,4	55	63
	1,5	3,2	0,24	4,2	47	54
	2,0	3,6	0,30	4,8	46	53
	2,1	3,7	0,30	4,9	44	51
U-12T	1,0	2,7	0,13	2,3	55	63
	1,5	3,2	0,16	2,8	47	54
	2,0	3,6	0,20	3,2	46	53
	2,1	3,7	0,20	3,3	44	51
U-12Q	1,0	2,7	0,10	1,7	55	63
	1,5	3,2	0,12	2,1	47	54
	2,0	3,6	0,15	2,4	46	53
	2,1	3,7	0,15	2,5	44	51

Note: *All U-Series nozzles tested on 4" (10,2) pop-ups.*

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Note: *Specify spray head body and nozzle sizes separately.*

Refer to Price List for shipping unit quantities.

Note: *Radius reduction over 25% of the normal throw of the nozzle is not recommended.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

U15 Series					
23° Trajectory				■	▲
Nozzle	**Pressure psi**	**Radius ft.**	**Flow GPM**	**Precip In/h**	**Precip In/h**
U-15F	15	11	2.60	2.07	2.39
	20	12	3.00	2.01	2.32
	25	14	3.30	1.62	1.87
	30	15	3.70	1.58	1.83
U-15TQ	15	11	1.95	2.07	2.39
	20	12	2.25	2.01	2.32
	25	14	2.48	1.62	1.87
	30	15	2.78	1.58	1.83
U-15TT	15	11	1.74	2.07	2.39
	20	12	2.01	2.01	2.32
	25	14	2.21	1.62	1.87
	30	15	2.48	1.58	1.83
U-15H	15	11	1.30	2.07	2.39
	20	12	1.50	2.01	2.32
	25	14	1.65	1.62	1.87
	30	15	1.85	1.58	1.83
U-15T	15	11	0.87	2.07	2.39
	20	12	1.00	2.01	2.32
	25	14	1.10	1.62	1.87
	30	15	1.23	1.58	1.83
U-15Q	15	11	0.65	2.07	2.39
	20	12	0.75	2.01	2.32
	25	14	0.82	1.62	1.87
	30	15	0.92	1.58	1.83

U15 Series							METRIC
23° Trajectory					■	▲	
Nozzle	**Pressure bars**	**Radius m**	**Flow m^3/h**	**Flow l/m**	**Precip mm/h**	**Precip mm/h**	
U-15F	1,0	3,4	0,60	9,8	52	60	
	1,5	3,9	0,72	11,8	47	55	
	2,0	4,5	0,84	13,7	41	48	
	2,1	4,6	0,84	14,0	40	46	
U-15TQ	1,0	3,4	0,45	7,4	52	60	
	1,5	3,9	0,54	8,8	47	55	
	2,0	4,5	0,63	10,3	41	48	
	2,1	4,6	0,63	10,5	40	46	
U-15TT	1,0	3,4	0,40	6,6	52	60	
	1,5	3,9	0,48	7,9	47	55	
	2,0	4,5	0,55	9,2	41	48	
	2,1	4,6	0,56	9,4	40	46	
U-15H	1,0	3,4	0,30	4,9	52	60	
	1,5	3,9	0,36	5,9	47	55	
	2,0	4,5	0,42	6,9	41	48	
	2,1	4,6	0,42	7,0	40	46	
U-15T	1,0	3,4	0,20	3,3	52	60	
	1,5	3,9	0,24	3,9	47	55	
	2,0	4,5	0,28	4,6	41	48	
	2,1	4,6	0,28	4,7	40	46	
U-15Q	1,0	3,4	0,15	2,5	52	60	
	1,5	3,9	0,18	2,9	47	55	
	2,0	4,5	0,21	3,4	41	48	
	2,1	4,6	0,21	3,5	40	46	

Note: *All U-Series nozzles tested on 4" (10,2) pop-ups.*

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Note: *Specify spray head body and nozzle sizes separately.*

Refer to Price List for shipping unit quantities.

Note: *Radius reduction over 25% of the normal throw of the nozzle is not recommended.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

1300A-F

Adjustable Full-Circle Bubbler

Features

- Fully adjustable flow.
- Shipped with SR-050 ½" (15/21) inlet filter screen for easy installation and resistance to debris.
- Operates over a wide range of pressures.
- Non-corrosive plastic and stainless steel construction for long life.
- Five-year trade warranty.

Operating Range

- Flow: 1.0 to 2.3 GPM (0,23 to 0,52 m³/h; 3,6 to 8,4 l/m)
- Spacing: 1 to 3 feet (0,3 to 0,9 m)
- Pressure: 10 to 60 psi (0,7 to 4,1 bars)

Dimensions

- ½" (15/21) female threaded inlet
- Height: 1" (2,5 cm)
- Top diameter: 1" (2,5 cm)

Model

- 1300A-F

1300A-F		
Nozzle	Pressure psi	Flow GPM
F	10	1.0
	20	1.4
	30	1.7
	40	1.9
	50	2.1
	60	2.3

1300A-F	METRIC		
Nozzle	Pressure bars	Radius m³/h	Flow l/m
F	0,7	0,23	3,6
	1,0	0,26	4,2
	1,5	0,30	4,8
	2,0	0,34	5,4
	2,5	0,39	6,0
	3,0	0,43	7,2
	3,5	0,48	7,8
	4,0	0,52	8,4
	4,1	0,53	8,4

● 1300A-F

1400 Series

Pressure Compensating Full-Circle Bubblers

Features

- Low flow rates allow water to be absorbed as needed. Reduces runoff.
- Flow will not fluctuate at pressures between 20 and 90 psi (1,4 to 6,2 bars). Maintains even flow.
- Flow is not adjustable, providing increased vandal resistance.
- No adjustment required.
- Corrosion-proof plastic and rubber construction for long life.
- Five-year trade warranty.
- Shipped with special SR-050 ½" (15/21) bubbler filter screen for easy installation and resistance to debris.
- Trickle pattern on models 1401 and 1402; umbrella pattern on models 1404 and 1408.

Operating Range

- Flow: 0.25 to 2.00 GPM (0,06 to 0,46 m³/h; 1,2 to 7,2 l/m)
- Spacing: 1 to 3 feet (0,3 to 0,9 m)
- Pressure: 20 to 90 psi (1,4 to 6,2 bars)

Dimensions

- ½" (15/21) female threaded inlet
- Height: 1" (2,5 cm)
- Top diameter: 1" (2,5 cm)

Models

- 1401: 0.25 GPM (0,06 m³/h; 1,2 l/m); full-circle, trickle pattern
- 1402: 0.50 GPM (0,11 m³/h; 1,8 l/m); full-circle, trickle pattern
- 1404: 1.00 GPM (0,23 m³/h; 3,6 l/m); full-circle, umbrella pattern
- 1408: 2.00 GPM (0,46 m³/h; 7,2 l/m); full-circle, umbrella pattern

● 1400 Series

1800 PCS

Pressure Compensating Screens

- Compensates for pressure variations.
- Eliminates fogging and water waste caused by high pressures.
- Nozzles can be matched with screens to create short-throw, reduced-radius patterns and/or flush-mounted bubblers.

Features

- New .08 GPM (0,02 m³/h; 0,6 l/m) and .25 GPM (0,06 m³/h; 1,2 l/m) screens allow greater flexibility in achieving 4', 6', and 7' radius patterns.
- Color-coded for easy identification.
- Use with all 1800 Series plastic nozzles (MPR, VAN, U-Series, Strips and Bubblers).
- Easily installed in new and retrofit applications. Simply replace standard screen with PCS screen.

**With a pressure compensator, outlet pressure will be reduced, but will fluctuate as the inlet pressure changes. A pressure compensator cannot maintain outlet pressure at a constant rate. A pressure regulator establishes and maintains a constant outlet pressure of 30 psi (2,1 bars) as long as the inlet pressure at the spray head is greater than 30 psi (2,1 bars).*

Operating Range

- Flow: 0.10 to 3.70 GPM (0,05 to 0,84 m³/h; 36 to 828 l/m)
- Pressure: 15 to 70 psi (1,0 to 4,8 bars)

Models

- PCS-008: 0.08 GPM (0,02 m³/h; 0,6 l/m) - Beige
- PCS-010: 0.1 GPM (0,02 m³/h; 0,6 l/m) - Purple
- PCS-020: 0.2 GPM (0,05 m³/h; 0,6 l/m) - Brown
- PCS-025: 0.25 GPM (0,06 m³/h; 1,2 l/m) - Pink
- PCS-030: 0.3 GPM (0,07 m³/h; 1,2 l/m) - Silver
- PCS-040: 0.4 GPM (0,09 m³/h; 1,8 l/m) - Orange
- PCS-060: 0.6 GPM (0,14 m³/h; 2,4 l/m) - Black
- PCS-090: 0.9 GPM (0,20 m³/h; 3,6 l/m) - White
- PCS-125: 1.25 GPM (0,28 m³/h; 4,8 l/m) - Green
- PCS-175: 1.75 GPM (0,40 m³/h; 6,6 l/m) - Yellow
- PCS-260: 2.6 GPM (0,59 m³/h; 9,6 l/m) - Blue
- PCS-370: 3.7 GPM (0,84 m³/h; 13,8 l/m) - Red

Recommended nozzle+PCS combinations to achieve 4', 6' and 7' radii*

Nozzle	PCS	ft.	m
5Q	Beige	4'	(1,2)
8Q-FLT	Pink	6'	(1,8)
8Q-FLT	Black	7'	(2,1)
8H-FLT	Pink	4'	(1,2)
8H-FLT	Silver	7'	(2,1)
8F-FLT	Black	4'	(1,2)
8F-FLT	White	7'	(2,1)

Note: *radius reduction data tested at 30 psi (1,5 bars)*

** Individual results may vary based on site conditions*

1800 PCS Screens

1800 PCS Performance

		GPM	PCS-010 0.1		PCS-020 0.2		PCS-030 0.3		PCS-040 0.4		PCS-060 0.6		PCS-090 0.9		PCS-125 1.25		PCS-175 1.75		PCS-260 2.6		PCS-370 3.7	
		m³/h (l/m)	0,02 (36)		0,05 (36)		0,07 (72)		0,09 (108)		0,14 (144)		0,20 (216)		0,28 (288)		0,40 (396)		0,59 (576)		0,84 (828)	
		Color	Purple		Brown		Silver		Orange		Black		White		Green		Yellow		Blue		Red	
		Distance	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters
U-Series		U-12Q			2'	(0,6)	7'	(2,1)	**12'**	**(3,7)**												
		U-12T					6'	(1,8)	8'	(2,4)	**12'**	**(3,7)**										
		U-12H					3'	(0,9)	4'	(1,2)	7'	(2,1)	11'	(3,4)	**12'**	**(3,7)**						
		U-12TT									6'	(1,8)	9'	(2,7)	11'	(3,4)	**12'**	**(3,7)**				
		U-12TQ									5'	(1,5)	8'	(2,4)	**12'**	**(3,7)**						
		U-12F							3'	(0,9)	6'	(1,8)	8'	(2,4)	9'	(2,7)	11'	(3,4)	**12'**	**(3,7)**		
		U-15Q			2'	(0,6)	6'	(1,8)	11'	(3,4)	**15'**	**(4,6)**										
		U15T									10'	(3,0)	13'	(4,0)	14'	(4,3)	**15'**	**(4,6)**				
		U-15H					2'	(0,6)	3'	(0,9)	5'	(1,5)	9'	(2,7)	12'	(3,7)	**15'**	**(4,6)**				
		U15TT													11'	(3,4)	12'	(3,7)	13'	(4,0)	14'	(4,3)
		U15TQ													9'	(2,7)	11'	(3,4)	13'	(4,0)	14'	(4,3)
		U-15F									4'	(1,2)	6'	(1,8)	7'	(2,1)	10'	(3,1)	13'	(4,0)	**15'**	**(4,6)**
VAN		4 (90°)			1'	(0,3)	3'	(0,9)	**4'**	**(1,2)**												
		4 (180°)			1'	(0,3)	2'	(0,6)	3'	(0,9)	**4'**	**(1,2)**										
		4 (270°)					1'	(0,3)	2'	(0,6)	**4'**	**(1,2)**										
		4 (330°)					1'	(0,3)	2'	(0,6)	**4'**	**(1,2)**										
		6 (90°)			1'	(0,3)	3'	(0,9)	**6'**	**(1,8)**												
		6 (180°)					2'	(0,6)	4'	(1,2)	**6'**	**(1,8)**										
		6 (270°)					0.5'	(0,2)	1'	(0,3)	3'	(0,9)	**6'**	**(1,8)**								
		6 (330°)					0.5'	(0,2)	1'	(0,3)	3'	(0,9)	**6'**	**(1,8)**								
		8 (90°)					1'	(0,3)	3'	(0,9)	**8'**	**(2,4)**										
		8 (180°)					0.5'	(0,2)	2'	(0,6)	4'	(1,2)	**8'**	**(2,4)**								
		8 (270°)							0.5'	(0,2)	3'	(0,9)	5'	(1,5)	**8'**	**(2,4)**						
		8 (330°)							0.5'	(0,2)	3'	(0,9)	5'	(1,5)	**8'**	**(2,4)**						
		10 (90°)					3'	(0,9)	5'	(1,5)	**10'**	**(3,1)**										
		10 (180°)							1'	(0,3)	5'	(1,5)	7'	(2,1)	**10'**	**(3,1)**						
		10 (270°)							1'	(0,3)	4'	(1,2)	6'	(1,8)	9'	(2,7)	**10'**	**(3,1)**				
		10 (360°)					0.5'	(0,2)	1'	(0,3)	4'	(1,2)	6'	(1,8)	8'	(2,4)	**10'**	**(3,1)**				
		12 (90°)			3'	(0,9)	8'	(2,4)	10'	(3,1)	**12'**	**(3,7)**										
		12 (180°)					1'	(0,3)	2'	(0,6)	5'	(1,5)	8'	(2,4)	**12'**	**(3,7)**						
		12 (270°)					0.5'	(0,2)	1'	(0,3)	3'	(0,9)	6'	(1,8)	8'	(2,4)	**12'**	**(3,7)**				
		12 (360°)							1'	(0,3)	3'	(0,9)	5'	(1,5)	7'	(2,1)	**12'**	**(3,7)**				
		15 (90°)					2'	(0,6)	5'	(1,5)	11'	(3,4)	**15'**	**(4,6)**								
		15 (180°)					1'	(0,3)	3'	(0,9)	6'	(1,8)	9'	(2,7)	12'	(3,7)	**15'**	**(4,6)**				
		15 (270°)											6'	(1,8)	8'	(2,4)	**15'**	**(4,6)**				
		15 (360°)													8'	(2,4)	12'	(3,7)	14'	(4,3)	**15'**	**(4,6)**
		18 (90°)					0.5'	(0,2)	2'	(0,6)	6'	(1,8)	12'	(3,7)	17'	(5,2)	**18'**	**(5,5)**				
		18 (180°)							1'	(0,3)	3'	(0,9)	5'	(1,5)	9'	(2,7)	16'	(4,9)	**18'**	**(5,5)**		
		18 (270°)							0.5'	(0,2)	1'	(0,3)	3'	(0,9)	5'	(1,5)	11'	(3,4)	15'	(4,6)	**18'**	**(5,5)**

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

1800 PCS Performance

		PCS-010		PCS-020		PCS-030		PCS-040		PCS-060		PCS-090		PCS-125		PCS-175		PCS-260		PCS-370	
	GPM	0.1		0.2		0.3		0.4		0.6		0.9		1.25		1.75		2.6		3.7	
	m³/h (l/m)	0,02 (36)		0,05 (36)		0,07 (72)		0,09 (108)		0,14 (144)		0,20 (216)		0,28 (288)		0,40 (396)		0,59 (576)		0,84 (828)	
	Color	Purple		Brown		Silver		Orange		Black		White		Green		Yellow		Blue		Red	
	Distance	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters	feet	meters
MPR	5Q	**5'**	**(1,5)**																		
MPR	5T	**5'**	**(1,5)**																		
MPR	5H	4'	(1,2)	**5'**	**(1,5)**																
MPR	5F					**5'**	**(1,5)**														
MPR	8Q	4'	(1,2)	**8'**	**(2,4)**																
MPR	8T			6'	(1,8)	7'	(2,1)	**8'**	**(2,4)**												
MPR	8H			5'	(1,5)	7'	(2,1)	**8'**	**(2,4)**												
MPR	8F					2'	(0,6)	3'	(0,9)	**8'**	**(2,4)**										
MPR	10Q	2'	(0,6)	6'	(1,8)	8'	(2,4)	**10'**	**(3,1)**												
MPR	10T			4'	(1,2)	9'	(2,7)	**10'**	**(3,1)**												
MPR	10H			3'	(0,9)	6'	(1,8)	8'	(2,4)	**10'**	**(3,1)**										
MPR	10F							1'	(0,3)	4'	(1,2)	8'	(2,4)	**10'**	**(3,1)**						
MPR	12Q			3'	(0,9)	8'	(2,4)	11'	(3,4)	**12'**	**(3,7)**										
MPR	12T			2'	(0,6)	6'	(1,8)	10'	(3,1)	11'	(3,4)	**12'**	**(3,7)**								
MPR	12H					4'	(1,2)	6'	(1,8)	10'	(3,1)	**12'**	**(3,7)**								
MPR	12TT					2'	(0,6)	4'	(1,2)	6'	(1,8)	9'	(2,7)	**12'**	**(3,7)**						
MPR	12TQ					2'	(0,6)	3'	(0,9)	6'	(1,8)	8'	(2,4)	10'	(3,1)	**12'**	**(3,7)**				
MPR	12F							2'	(0,6)	5'	(1,5)	7'	(2,1)	8'	(2,4)	**12'**	**(3,7)**				
MPR	15Q			3'	(0,9)	5'	(1,5)	9'	(2,7)	12'	(3,7)	**15'**	**(4,6)**								
MPR	15T					5'	(1,5)	7'	(2,1)	12'	(3,7)	14'	(4,3)	**15'**	**(4,6)**						
MPR	15H					3'	(0,9)	4'	(1,2)	7'	(2,1)	11'	(3,4)	**15'**	**(4,6)**						
MPR	15TT					1'	(0,3)	2'	(0,6)	4'	(1,2)	8'	(2,4)	10'	(3,1)	13'	(4,0)	**15'**	**(4,6)**		
MPR	15TQ											6'	(1,8)	8'	(2,4)	14'	(4,3)	**15'**	**(4,6)**		
MPR	15F											4'	(1,2)	6'	(1,8)	10'	(3,1)	12'	(3,7)	**15'**	**(4,6)**
MPR	16Q-SLA	1'	(0,3)	2'	(0,6)	8'	(2,4)	11'	(3,4)	**16'**	**(4,9)**										
MPR	16H-SLA			0.5'	(0,2)	1'	(0,3)	4'	(1,2)	9'	(2,7)	12'	(3,7)	**16'**	**(4,9)**						
MPR	16F-SLA							0.5'	(0,2)	2'	(0,6)	3'	(0,9)	6'	(1,8)	12'	(3,7)	**16'**	**(4,9)**		
MPR	22Q-SS			2'	(0,6)	7'	(2,1)	12'	(3,7)	20'	(6,1)	**22'**	**(6,7)**								
MPR	22H-SS					2'	(0,6)	4'	(1,2)	8'	(2,4)	14'	(4,3)	**22'**	**(6,7)**						
MPR	22F-SS									2'	(0,6)	5'	(1,5)	7'	(2,1)	18'	(5,5)	**22'**	**(6,7)**		
Bubbler	5Q-B			2'	(0,6)	4'	(1,2)	**5'**	**(1,5)**												
Bubbler	5H-B					1'	(0,3)	2'	(0,6)	**5'**	**(1,5)**										
Bubbler	5F-B							1'	(0,3)	2'	(0,6)	3'	(0,9)	**5'**	**(1,5)**						
Bubbler	5CST-B			1'	(0,3)	3'	(0,9)	5'	(1,5)												
Strip	15SQ											4' x 4'	(1,2 x 1,2)	7' x 7 '	(2,1 x 2,1)	11' x 11'	(3,4 x 3,4)	**15' x 15'**	**(4,6 x 4,6)**	16' x 16'	(4,9 x 4,9)
Strip	9SST											7' x 12'	(2,1 x 3,7)	9' x 18'	(2,7 x 5,5)	**9' x 18'**	**(2,7 x 5,5)**				
Strip	15CST							4' x 12'	(1,2 x 3,7)	4' x 24'	(1,2 x 7,3)	4' x 30'	(1,2 x 9,1)	**4' x 30'**	**(1,2 x 9,1)**						
Strip	15SST							2' x 10'	(0,6x 3,1)	3' x 20'	(0,9 x 6,1)	4' x 26'	(1,2 x 7,9)	**4' x 30'**	**(1,2 x 9,1)**						
Strip	15EST					3' x 12'	(0,9 x 3,7)	**4' x 15'**	**(1,2 x 4,6)**												

Bold type indicates recommended nozzle/screen combination to achieve catalog performance at 30 psi (2,1 bars).

Note: Screens were tested at 50 psi (3,5 bars) for 10 minutes prior to taking distance measurements. Distances may vary slightly with higher pressures and longer run times.

Note: Refer to catalog notation for proper nozzle selection.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

SA Series
Swing Assemblies

Features
- Saves time and increases productivity.
- High-quality pre-assembly - Greater reliability.
- Flexible polyethylene swing arm - No breaks or cracks under a load.
- Low-cost, reliable, and flexible connection - Easy adjustment of heads to grade.

Specifications
- Maximum flow is 8 GPM
- Operating pressure up to 80 psi
- Pressure loss at 6 GPM is 5.0 psi
- Surge pressure up to 240 psi
- Temperature up to 110° F

Models

Regular	Length	Inlet/Outlet
•SA-6050-P (pallet pack)	6"	½" (15/21) x ½" (15/21)
•SA-6050	6"	½" (15/21) x ½" (15/21)
•SA-125050	12"	½" (15/21) x ½" (15/21)
•SA-125075	12"	½" (15/21) x ¾" (20/27)
•SA-127575	12"	¾" (20/27) x ¾" (20/27)
•SA-65075	6"	½" (15/21) x ¾" (20/27)
•SA-185050	18"	½" (15/21) x ½" (15/21)

All Swing Assemblies are Male x Male NPT.

Swing Assembly Pressure Loss Chart

A Flow (GPM)	B Pressure Loss (psi)	C Pressure Loss / 10 ft of Pipe
0	0.3	0.0
1	0.6	0.2
2	1.0	0.6
3	1.6	1.2
4	2.5	2.0
5	3.7	2.9
6	5.0	4.0
7	6.7	5.3
8	8.4	6.7
9	10.7	8.2
10	13.1	9.9

Swing Assembly Pressure Loss Chart METRIC

A Flow (m^3/h)	B Pressure Loss (bars)	C Pressure Loss / 3 m of Pipe
0	0.3	0.0
1	0.6	0.2
2	1.0	0.6
3	1.6	1.2
4	2.5	2.0
5	3.7	2.9
6	5.0	4.0
7	6.7	5.3
8	8.4	6.7
9	10.7	8.2
10	13.1	9.9

Total Pressure Loss at A
= B + C x Per 10 ft of Pipe Used

● SA Series

SPX Series Swing Pipe

Features

SPX-100

- Quick and easy installation - Lower material and labor costs.
- Convenient 100-foot packages.

SPX-FLEX100

- 15% more flexible than the nearest competitor.
- Easier-to-grip surface - Even when wet.
- Enhanced kink resistance.

Specifications

- Inside diameter: 0.49"
- Operating pressure up to 80 psi and 110° F

Models

- SPX-100
- SPX-FLEX100

● SPX-FLEX100

MSE Series

Street Elbow

Features

- Black, high density polyethylene.
- High performance, impact-resistant plastic.
- Schedule 40 construction.

Specifications

- Operating pressure up to 80 psi at 110° F

Models

- MSE-050: ½" (15/21) F x M NPT street elbow
- MSE-075: ¾" (20/27) F x M NPT street elbow

● MSE-075

SB Series

Spiral Barb Fittings

Features

- Easy twist-in insertion - No glue or clamps.
- Multiple barbs - No barb blow-out.
- Hard acetal thermoplastic - Sharper barbs.

Specifications

- Up to 80 psi and 110° F

Models

- SBE-050: ½" (15/21) M NPT x ½" barb elbow
- SBE-050B: ½" (15/21) M NPT x ½" barb elbow - bulk package
- SBE-075: ¾" (20/27) M NPT x ½" barb elbow
- SBE-075B: ¾" (20/27) M NPT x ½" barb elbow - bulk package
- SBA-050: ½" (15/21) M NPT x ½" barb adapter
- SBA-075: ¾" (20/27) M NPT x ½" barb adapter
- SB-TEE: ½" barb x ½" barb x ½" barb tee
- SB-CPLG: ½" barb x ½" barb coupling
- SBFE-050: ½" (15/21) F NPT x ½" barb elbow
- SB-NPT-TEE: ½" (15/21) M NPT x ½" barb x ½" spiral barb tee

● SB Series

PA-8S

Plastic Shrub Adapter

Features

- Adapts Rain Bird nozzles for use with ½" (15/21) MPT threaded risers.
- Accepts protective, non-clogging 1800 Series filter screen (shipped with nozzle) and PCS Series screens.
- Durable, non-corrosive plastic construction.

Specifications

- ½" (15/21) female inlet threads
- Fine top threads accept all Rain Bird nozzles

Model

- PA-8S

● PA-8S

PA-8S-NP
Non-Potable Plastic Shrub Adapter

Features
- Purple plastic shrub adapter for easy identification of non-potable water system.
- Adapts Rain Bird nozzles for use with ½" (15/21) MPT threaded risers.
- Accepts protective, non-clogging 1800 Series filter screen (shipped w/nozzle) and PCS Series screens.
- Durable, non-corrosive plastic construction.

Specifications
- ½" (15/21) female inlet thread
- Fine top threads accept all Rain Bird nozzles

Model
- PA-8S-NP

● PA-8S-NP

PA-8S-PRS
Pressure Regulating Shrub Adapter

Features
- Rugged thermoplastic construction resists UV rays.
- Adapts nozzles for use with ½" (15/21) MPT threaded risers.
- Patented PRS pressure regulator built into the stem. No parts to be installed at the site. Saves time and money.
- Maintains constant outlet pressure at 30 psi (2,1 bars). Ensures maximum spray head and nozzle performance.
- Ends misting and fogging caused by high pressure. Prevents water waste and minimizes liability.
- Restricts water loss by up to 70% if nozzle is removed or damaged. Saves water and money. Reduces liability. Recommended for vandal-prone areas.
- Fits all Rain Bird plastic nozzles.
- Five-year trade warranty.

Operating Range
- Pressure: 15 to 70 psi (1,0 to 4,8 bars)
- Flow: 0.2 to 4.0 GPM (0,05 to 0,91 m^3/h; 0,06 to 15,0 l/m)

Specifications
- ½" (15/21) female inlet threads
- Fine top threads accept all Rain Bird nozzles
- Height: 5¼" (13,3 cm)

Model
- PA-8S-PRS

● PA-8S-PRS

1800®-EXT
Plastic Extension

Features
- UV-resistant thermoplastic construction for long life.
- Fits all Rain Bird spray heads and nozzles. Exception: Cannot be used with bubblers.
- Easily installed without any tools.
- Can be reinstalled without damaging the threads if accidentally knocked off the riser or spray head.
- Maximum recommended number: two extensions per sprinkler.

Model
- 1800-EXT

● 1800-EXT

PA-80
Plastic Adapter

Features
- Adapts Rain Bird sprinklers for use with any 1/2" (15/21) FPT bubbler or spray nozzle.
- Rugged, UV-resistant thermoplastic construction.
- Easy to install; no tools required.

Dimensions
- Height: 1½" (3,8 cm); 0.8" (2,0 cm) above 1800 cap

Model
- PA-80

● PA-80

RWS Series

Root Watering Systems

- Promotes health in trees and shrubs, contributing to the success of your landscape designs.
- Easy to specify. You just specify one model number instead of a host of parts.
- Compatible with drip emitters, or can be purchased with pre-installed bubbler and check valve options.

Features

- Aesthetically pleasing because it's installed below grade.
- Assured reliability because all units are self-contained and factory assembled.
- Design flexibility because a variety of models are available to accommodate your installation requirements.
- **For the RWS Model:**
  - 4" retaining cap and locking grate tops a 36" semi-rigid mesh tube.
  - Factory installed swing assemblies (excluding RWS-BGX) with a 1401 (0.25 GPM) or 1402 (0.5 GPM) bubbler on a fixed riser (standard on models with a "B" in their model number) makes connecting to lateral lines easy.
  - The locking grate protects the system, and the optional sand sock is ideal for use in sandy soil.
- **For the Mini Root Watering System:**
  - 4" retaining cap and locking grate tops a 18" semi-rigid mesh tube.
  - Factory installed ½" spiral barb elbow with a 1401 or 1402 bubbler makes connecting to lateral lines easy.
  - Innovative design with a locking grate protects system from vandalism and the optional sand sock is ideal for use in sandy soil.
- **For the Shrub Root Watering System:**
  - 2" snap-on cap and base cap enclose a 10" semi-rigid mesh tube.
  - Factory installed ½" spiral barb elbow with 1401 bubbler makes connecting to lateral lines easy.
  - It's just the right size for shrubs.

Specifications

- Root Watering System: 4" diameter x 36" length
- Mini Root Watering System: 4" diameter x 18" length
- Shrub Root Watering System: 2" diameter x 10" length

● RWS-BG

● RWS-M-BG

● RWS-S-BG

How To Specify

RWS - x - x - x - G

Top
Grate or Snap-on Cap (Shrub)

Optional
C: Check Valve

Optional
B: Bubbler

Optional
M: Mini-RWS (4" x 18")
S: Shrub RWS (2" x 10")

Model
RWS Root Watering System

RWS Series (continued)

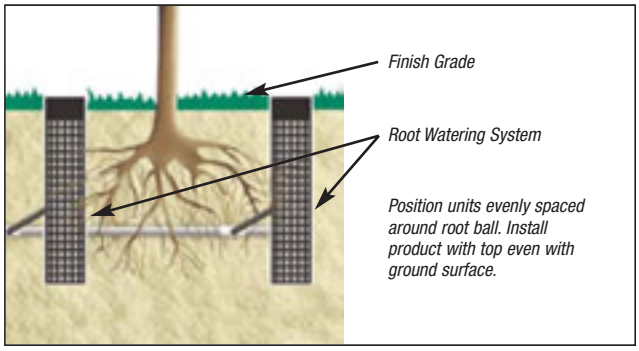
Models

- RWS-G: 36" long, 4" diameter with locking grate comes ready for customer-provided irrigation hardware
- RWS-BG: RWS-G with factory installed 1401 bubbler, internal plumbing, 12" swing assembly and ½" (15/21) M NPT inlet
- RWS-BG02: RWS-G with factory installed 1402 bubbler, internal plumbing, 12" swing assembly and ½" (15/21) M NPT inlet
- RWS-BCG: RWS-G with factory installed 1401 bubbler, check valve, internal plumbing, 12" swing assembly and ½" (15/21) M NPT inlet
- RWS-BCG02: RWS-G with factory installed 1402 bubbler, check valve, internal plumbing, 12" swing assembly and ½" (15/21) M NPT inlet
- RWS-BGX: RWS-G with factory installed 1401 bubbler, internal plumbing, and 18" swing pipe
- RWS-SOCK: Full length sand sock made from polypropylene landscape fabric, for use in sandy soil conditions (RWS and Mini-RWS)
- NEW RWS-M-BG: 18" long, 4" diameter with locking grate, factory-installed 1401 bubbler and ½" spiral barb elbow
- NEW RWS-M-BG02: RWS-M-BG with factory-installed 1402 bubbler and ½" spiral barb elbow
- NEW RWS-M-BCG: RWS-M-BG with factory-installed 1401 bubbler, check valve & ½" spiral barb elbow
- NEW RWS-M-BCG02: RWS-M-BG with factory-installed 1402 bubbler, check valve & ½" spiral barb elbow
- NEW RWS-S-BG: 2" diameter, 10" long with snap-on cap, base cap, factory-installed 1401 bubbler and ½" spiral barb elbow
- NEW RWS-S-BCG: RWS-S-BG with factory-installed 1401 bubbler, check valve and ½" spiral barb elbow

Top view: RWS and Mini-RWS with optional bubbler

RWS Sand Sock

Designed to fit over the RWS and Mini-RWS units. Ideal for use in sandy soil, it will deter fine soil from infiltrating into the RWS canister.



Root Watering Systems Usage Guide

Large Specimen Trees	Mature Native & Non-Native Trees	Young Trees	Small Trees & Large Shrubs	Shrubs
				

RWS

Shrub-RWS

Mini-RWS

Spray Heads

1800® VPC
Vandal-Proof Cap

Features
- Designed for vandal-prone areas.
- Locking stainless steel set screw (1/16" Hex; 2 mm Hex) at cap threads prevents tampering.
- Fits any 1800® Series sprinkler.
- "VPC" stamped on cap for easy identification.

Model
- 1800 VPC

● 1800 VPC

● Locking Screw on 1800 VPC

1800® NP Cover

Features
- Improved design for better retention on 1800® Series spray head covers.
- Purple plastic cover for easy identification of non-potable water system.
- Marked with "Do Not Drink!" warning in both English and Spanish.
- Snaps onto all 1800® Series spray head covers.

Model
- 1800 NP Cover

● 1800 NP Cover

US NP Cover

Features
- Purple cover for easy identification of non-potable water system.
- Threads onto all Uni-Spray™ spray head bodies
- UV resistant

Model
- US-NP

● US NP Cover

PT
Spray Head Pull Up Tool

Features
- Pulls up pop-up sprinklers with or without a nozzle.
- Pulls up sprinklers in a canister.
- Holds up pop-up sprinklers for maintenance.
- Corrosion resistant.

Model
- PT

● PT

Right Choice in 1800 Spray Heads Sales Brochure

Features

- Used by contractors when recommending 1800 Spray Heads to homeowners.
- Photos and features to educate prospective customers.
- Size is 8½" wide x 11" high.
- 3-hole punched; packs of 50.
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814.
- Reference no. D38678D.

Right Choice in 1800-PRS Spray Heads Sales Brochure

Features

- Used by contractors when recommending 1800-PRS Spray Heads to homeowners.
- Size is 8½" wide x 11" high.
- 3-hole punched; packs of 50.
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814.
- Reference no. D39530.

Right Choice in U-Series Spray Head Nozzles Sales Brochure

Features

- Used by contractors when recommending U-Series Spray Head Nozzles to homeowners.
- Size is 8½" wide x 11" high.
- 3-hole punched; packs of 50.
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814.
- Reference no. D39527.

Online Water-Savings Calculators

Rain Bird has several online calculators available that will help you show your customers the potential water savings of using water-efficient Rain Bird sprays and nozzles:

- U-Series Nozzles
- 1800-PRS Sprays

Availability

www.rainbird.com/calculators

Rotary Nozzles



A new pattern of efficiency from 13 to 24 feet.

Rotary Nozzles are designed to fit Rain Bird® spray heads, but they work like a rotor. What sets this nozzle apart from standard spray head nozzles, is a low precipitation rate of 0.60 in/hr. Rotary Nozzles also have excellent uniformity of coverage and allow MPR irrigation designs. Take a few moments to turn the page and learn all about how this low flow rate, in tandem with multiple, rotating streams, will efficiently and reliably work to your advantage in the 13- to 24-foot range.

Install Confidence®
Install Rain Bird® Rotary Nozzles.

Rotary Nozzles

0.60 in/hr precipitation rate from 13 to 24 feet

- Low precipitation rate of 0.60 in/hr (15,2 mm/hr) reduces run-off and erosion.
- With approximately 60% less flow than conventional spray nozzles, Rotary Nozzles allow more heads per zone, reducing overall system complexity and cost.
- Multiple, rotating streams uniformly distribute water throughout the 13' to 24' radius range.

Features

- Matched precipitation rate across radii and pattern simplify the design process.
- Matched precipitation rate with Rain Bird 5000/5000 Plus MPR Rotor Nozzles allow MPR irrigation designs from 13' to 35'.
- Maintains highly efficient performance throughout the 20-55 psi pressure range, with no misting or fogging at high pressures.
- Stainless steel radius reduction screw allows reduction down to 13' on the R13-18 and to 17' on the R17-24 to accommodate varying landscape needs.
- Designed for use on Rain Bird spray heads.
- Three-year trade warranty.

Operating Range

- Pressure range: 20-55 psi (1,4 to 3,8 bars)
- Spacing: 13' to 24' (4,0 m to 7,3 m)

Models

- R13-18Q: 13' to 18' (4,0 m to 5,5 m) quarter-circle pattern nozzle
- R13-18T: 13' to 18' (4,0 m to 5,5 m) third-circle pattern nozzle
- R13-18H: 13' to 18' (4,0 m to 5,5 m) half-circle pattern nozzle
- R13-18TT: 13' to 18' (4,0 m to 5,5 m) two-thirds-circle pattern nozzle
- R13-18TQ: 13' to 18' (4,0 m to 5,5 m) three-quarter-circle pattern nozzle
- R13-18F: 13' to 18' (4,0 m to 5,5 m) full-circle pattern nozzle
- R17-24Q: 17' to 24' (5,2 m to 7,3 m) quarter-circle pattern nozzle
- R17-24T: 17' to 24' (5,2 m to 7,3 m) third-circle pattern nozzle
- R17-24H: 17' to 24' (5,2 m to 7,3 m) half-circle pattern nozzle
- R17-24TT: 17' to 24' (5,2 m to 7,3 m) two-thirds-circle pattern nozzle
- R17-24TQ: 17' to 24' (5,2 m to 7,3 m) three-quarter-circle pattern nozzle
- R17-24F: 17' to 24' (5,2 m to 7,3 m) full-circle pattern nozzle

How To Specify

1804-SAM-R13-18Q

- **Model** *1804*
- **Optional Feature** *SAM*
- **Nozzle** *Rotary Nozzle*
- **Pattern** *F=Full, TQ=Three-quarter, TT=Two-thirds, H=Half, T=Third, Q=Quarter*
- **Radius Range** *13'-18' (4,0-5,5 m), 17'-24' (5,2-7,3 m)*

Note: *Specify sprinkler bodies and nozzles separately. Installation on Rain Bird 1800®- SAM Spray Heads recommended in sandy environments.*

● R17-24Q ● R13-18H

R13-18 Series (Black)					
Arc	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
R13-18F	20	13	1.31	0.75	0.86
	25	14	1.46	0.67	0.77
	30	16	1.60	0.61	0.70
	35	16	1.73	0.61	0.70
	40	17	1.85	0.61	0.70
	45	18	1.96	0.61	0.70
	50	18	2.07	0.61	0.70
	55	18	2.17	0.61	0.70
R13-18TQ	20	13	0.98	0.75	0.86
	25	14	1.10	0.67	0.77
	30	16	1.20	0.61	0.70
	35	16	1.30	0.61	0.70
	40	17	1.39	0.61	0.70
	45	18	1.47	0.61	0.70
	50	18	1.55	0.61	0.70
	55	18	1.62	0.61	0.70
R13-18TT	20	13	0.87	0.75	0.86
	25	14	0.97	0.67	0.77
	30	16	1.07	0.61	0.70
	35	16	1.15	0.61	0.70
	40	17	1.23	0.61	0.70
	45	18	1.31	0.61	0.70
	50	18	1.38	0.61	0.70
	55	18	1.44	0.61	0.70
R13-18H	20	13	0.65	0.75	0.86
	25	14	0.73	0.67	0.77
	30	16	0.80	0.61	0.70
	35	16	0.86	0.61	0.70
	40	17	0.92	0.61	0.70
	45	18	0.98	0.61	0.70
	50	18	1.03	0.61	0.70
	55	18	1.08	0.61	0.70
R13-18T	20	13	0.44	0.75	0.86
	25	14	0.49	0.67	0.77
	30	16	0.53	0.61	0.70
	35	16	0.58	0.61	0.70
	40	17	0.62	0.61	0.70
	45	18	0.65	0.61	0.70
	50	18	0.69	0.61	0.70
	55	18	0.72	0.61	0.70
R13-18Q	20	13	0.33	0.75	0.86
	25	14	0.37	0.67	0.77
	30	16	0.40	0.61	0.70
	35	16	0.43	0.61	0.70
	40	17	0.46	0.61	0.70
	45	18	0.49	0.61	0.70
	50	18	0.52	0.61	0.70
	55	18	0.54	0.61	0.70

R13-18 Series (Black) METRIC					
Arc	Pressure bars	Radius m	Flow l/m	■ Precip mm/h	▲ Precip mm/h
R13-18F	1,4	4,0	4,95	19	22
	1,7	4,3	5,53	18	21
	2,1	4,8	6,06	15	18
	2,4	5,0	6,54	15	18
	2,8	5,2	6,99	15	18
	3,1	5,4	7,42	15	18
	3,4	5,5	7,82	15	18
	3,8	5,6	8,20	15	18
R13-18TQ	1,4	4,0	3,71	19	22
	1,7	4,3	4,15	18	21
	2,1	4,8	4,54	15	18
	2,4	5,0	4,91	15	18
	2,8	5,2	5,25	15	18
	3,1	5,4	5,56	15	18
	3,4	5,5	5,86	15	18
	3,8	5,6	6,15	15	18
R13-18TT	1,4	4,0	3,30	19	22
	1,7	4,3	3,69	18	21
	2,1	4,8	4,04	15	18
	2,4	5,0	4,36	15	18
	2,8	5,2	4,66	15	18
	3,1	5,4	4,95	15	18
	3,4	5,5	5,21	15	18
	3,8	5,6	5,47	15	18
R13-18H	1,4	4,0	2,47	19	22
	1,7	4,3	2,76	18	21
	2,1	4,8	3,03	15	18
	2,4	5,0	3,27	15	18
	2,8	5,2	3,50	15	18
	3,1	5,4	3,71	15	18
	3,4	5,5	3,91	15	18
	3,8	5,6	4,10	15	18
R13-18T	1,4	4,0	1,65	19	22
	1,7	4,3	1,84	18	21
	2,1	4,8	2,02	15	18
	2,4	5,0	2,18	15	18
	2,8	5,2	2,33	15	18
	3,1	5,4	2,47	15	18
	3,4	5,5	2,61	15	18
	3,8	5,6	2,73	15	18
R13-18Q	1,4	4,0	1,24	19	22
	1,7	4,3	1,38	18	21
	2,1	4,8	1,51	15	18
	2,4	5,0	1,64	15	18
	2,8	5,2	1,75	15	18
	3,1	5,4	1,85	15	18
	3,4	5,5	1,95	15	18
	3,8	5,6	2,05	15	18

Note: *Rotary Nozzles tested on 4 inch pop-ups. Performance data taken in zero wind conditions.*

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Layout using square or triangular head-to-head (50%) spacing. Single row applications are not recommended.

Do not reduce radius below 13' (4,0 m) on the R13-18 model and below 17' (5,2 m) on the R17-24 model.

Installation on Rain Bird 1800®- SAM Spray Heads recommended in sandy environments

R17-24 Series (Yellow)

Arc	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
R17-24F	20	17	2.45	0.79	0.92
	25	19	2.74	0.71	0.82
	30	21	3.00	0.65	0.75
	35	22	3.24	0.65	0.75
	40	23	3.46	0.65	0.75
	45	23	3.67	0.65	0.75
	50	24	3.87	0.65	0.75
	55	24	4.06	0.65	0.75
R17-24TQ	20	17	1.84	0.79	0.92
	25	19	2.05	0.71	0.82
	30	21	2.25	0.65	0.75
	35	22	2.43	0.65	0.75
	40	23	2.60	0.65	0.75
	45	23	2.76	0.65	0.75
	50	24	2.90	0.65	0.75
	55	24	3.05	0.65	0.75
R17-24TT	20	17	1.63	0.79	0.92
	25	19	1.83	0.71	0.82
	30	21	2.00	0.65	0.75
	35	22	2.16	0.65	0.75
	40	23	2.31	0.65	0.75
	45	23	2.45	0.65	0.75
	50	24	2.58	0.65	0.75
	55	24	2.71	0.65	0.75
R17-24H	20	17	1.22	0.79	0.92
	25	19	1.37	0.71	0.82
	30	21	1.50	0.65	0.75
	35	22	1.62	0.65	0.75
	40	23	1.73	0.65	0.75
	45	23	1.84	0.65	0.75
	50	24	1.94	0.65	0.75
	55	24	2.03	0.65	0.75
R17-24T	20	17	0.82	0.79	0.92
	25	19	0.91	0.71	0.82
	30	21	1.00	0.65	0.75
	35	22	1.08	0.65	0.75
	40	23	1.15	0.65	0.75
	45	23	1.22	0.65	0.75
	50	24	1.29	0.65	0.75
	55	24	1.35	0.65	0.75
R17-24Q	20	17	0.61	0.79	0.92
	25	19	0.68	0.71	0.82
	30	21	0.75	0.65	0.75
	35	22	0.81	0.65	0.75
	40	23	0.87	0.65	0.75
	45	23	0.92	0.65	0.75
	50	24	0.97	0.65	0.75
	55	24	1.02	0.65	0.75

R17-24 Series (Yellow) METRIC

Arc	Pressure bars	Radius m	Flow l/m	■ Precip mm/h	▲ Precip mm/h
R17-24F	1,4	5,2	9,27	20	23
	1,7	5,8	10,37	18	21
	2,1	6,4	11,36	16	19
	2,4	6,7	12,26	16	19
	2,8	6,9	13,10	16	19
	3,1	7,1	13,89	16	19
	3,4	7,3	14,65	16	19
	3,8	7,4	15,37	16	19
R17-24TQ	1,4	5,2	6,95	20	23
	1,7	5,8	7,78	18	21
	2,1	6,4	7,57	16	19
	2,4	6,7	8,18	16	19
	2,8	6,9	8,74	16	19
	3,1	7,1	10,43	16	19
	3,4	7,3	11,00	16	19
	3,8	7,4	11,53	16	19
R17-24TT	1,4	5,2	6,18	20	23
	1,7	5,8	6,91	18	21
	2,1	6,4	7,57	16	19
	2,4	6,7	8,18	16	19
	2,8	6,9	8,74	16	19
	3,1	7,1	9,27	16	19
	3,4	7,3	9,77	16	19
	3,8	7,4	10,25	16	19
R17-24H	1,4	5,2	4,62	20	23
	1,7	5,8	5,19	18	21
	2,1	6,4	5,68	16	19
	2,4	6,7	6,17	16	19
	2,8	6,9	6,55	16	19
	3,1	7,1	6,97	16	19
	3,4	7,3	7,34	16	19
	3,8	7,4	7,68	16	19
R17-24T	1,4	5,2	3,09	20	23
	1,7	5,8	3,46	18	21
	2,1	6,4	3,79	16	19
	2,4	6,7	4,09	16	19
	2,8	6,9	4,37	16	19
	3,1	7,1	4,64	16	19
	3,4	7,3	4,89	16	19
	3,8	7,4	5,13	16	19
R17-24Q	1,4	5,2	2,31	20	23
	1,7	5,8	2,57	18	21
	2,1	6,4	2,84	16	19
	2,4	6,7	3,07	16	19
	2,8	6,9	3,29	16	19
	3,1	7,1	3,48	16	19
	3,4	7,3	3,67	16	19
	3,8	7,4	3,86	16	19

Note: *Rotary Nozzles tested on 4 inch pop-ups. Performance data taken in zero wind conditions.*

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Layout using square or triangular head-to-head (50%) spacing. Single row applications are not recommended.

Do not reduce radius below 13' (4,0 m) on the R13-18 model and below 17' (5,2 m) on the R17-24 model.

Installation on Rain Bird 1800®- SAM Spray Heads recommended in sandy environments

Rotors

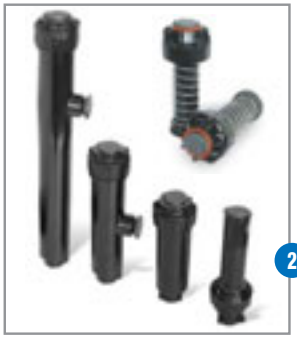


The rotor switch is on.

Ask anybody who has switched from another rotor to Rain Bird. What you will hear is that Rain Bird® rotors simplify installation and reliably perform as promised year after year, and that Rain Bird rotors distribute water more efficiently than anything else out there, thanks to Rain Curtain Nozzle™ Technology. Take time to compare — and if you haven't joined the Rain Bird rotor revolution already — you will.

Install Confidence®
Install Rain Bird® Rotors.

1



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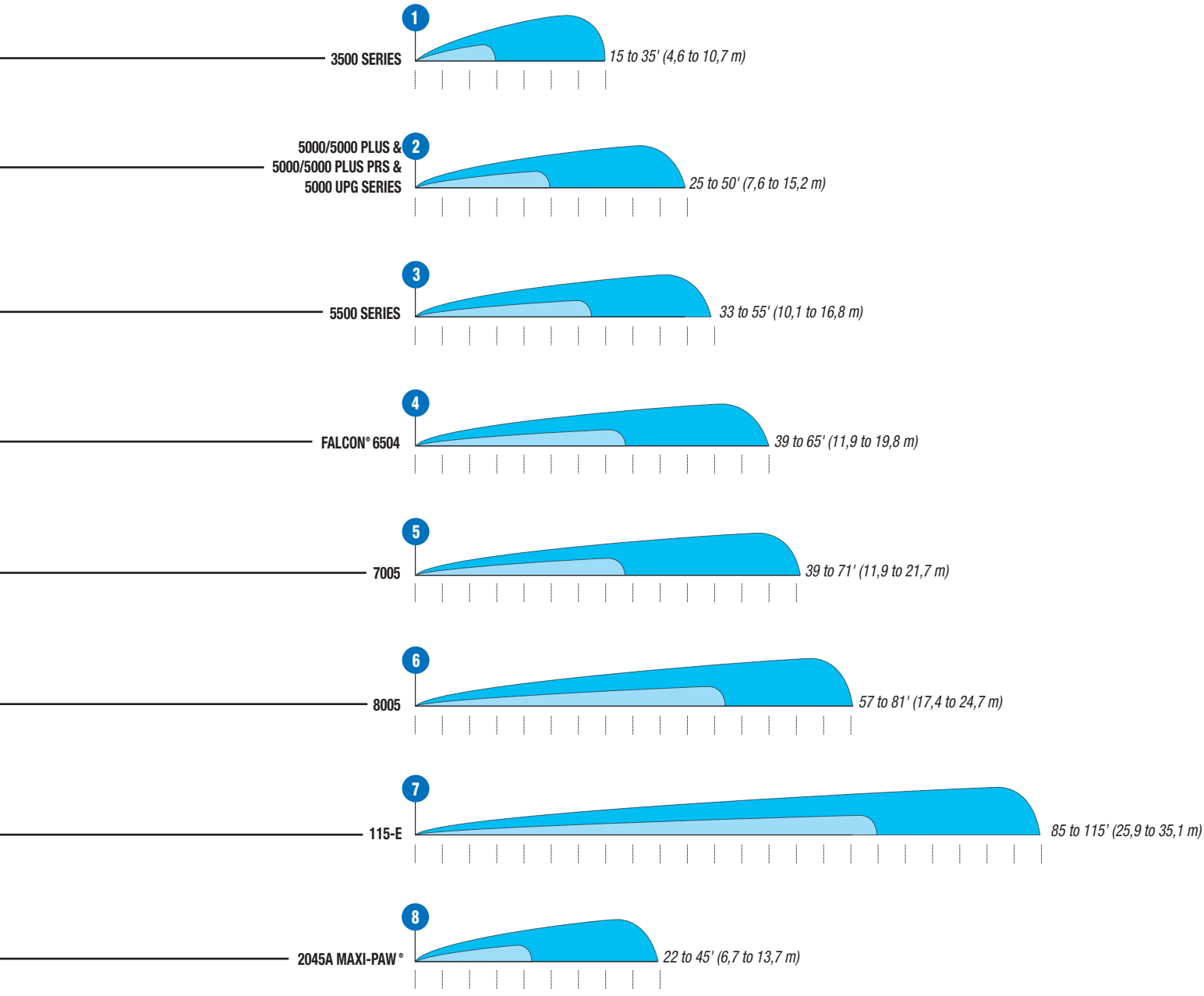
Pop-Up Sprinkler Selection Guide

A sprinkler's radius of throw is a key consideration in selecting a specific model. The chart below helps you make an initial choice among sprinklers in the Rain Bird product line. This chart indicates the maximum radius of throw for each sprinkler type under zero wind conditions. The data refer to: the smallest nozzle at the lowest charted pressure and the largest nozzle at the highest charted pressure.



Major Products	Closed Case Rotors							Open Case Rotor
Primary Applications	3500 Series	5000/5000 Plus Series	5500 Series	Falcon™ 6504	7005	8005	115-E	2045A Maxi-Paw™
Turfgrass 15' to 30'	●							
Turfgrass 30' to 50'		●	●	●	●			●
Turfgrass more than 50'			●	●	●	●	●	
Slopes	●	●	●	●	●	●	●	●
Ground Cover/Shrubs	●	●	●					
Athletic Fields		●	●	●	●	●	●	
High Wind Areas	●	●	●	●	●	●	●	●
Non-potable Water	●	●	●	●	●	●	●	●

3500 Series

Easy to Use, Tough to Beat

- Performance – Rain Curtain™ nozzles.
- True 4" (10,2 cm) pop-up (measured from the cover to the nozzle)
- Reliability – 3-year trade warranty

Features

- The 3500 Series Rotor is available in Shrub, 4" and SAM™ models.
- Top-adjust arc adjustment requiring only a flat bladed screwdriver.
- Attached nozzle tree of six Rain Curtain™ Nozzles provides:
  - Large droplets for consistent performance.
  - Effective close-in watering.
  - Even distribution over the entire radius.
- Water-lubricated gear-drive design for durable, reliable operation.
- 40 - 360° Part-circle arc rotation and reversing full-circle rotation in one.
- Radius adjustment screw allows up to 25% radius reduction without changing nozzles.
- Quick Check Arc/Fast Forward.
- Dual action, positive stop wiper seal protects internals from debris and assures positive pop-up and retraction.
- Self-adjusting stator does not require replacement when changing nozzles.
- Easily removable filter screen.
- Nozzle removal feature.

Options

- Optional non-potable cover for easy identification of reclaimed water
- Optional Seal-A-Matic™ (SAM™)check valve holds up to 7 feet (2,1 m) of elevation change, to prevent puddling and erosion caused by low head drainage

Operating Range

- Precipitation rate: .37 to .83 inches per hour (9 to 22 mm/h)
- Radius: 15 to 35 feet (4,6 to 10,7 m)
- Radius may be reduced up to 25% with Radius Reduction Screw
- Pressure: 25-55 psi (1,7 to 3,8 bars)
- Flow Rate: .54 to 4.6 GPM (1,8 to 17,4 l/m)

Specifications

- ½" NPT female bottom threaded inlet
- Full- and Part-circle adjustment 40° - 360°

Dimensions

- Pop up height: 4" (10,2 cm)
- Overall body height: Shrub: 7" (17,8 cm); 4": 6.6" (16,8 cm)
- Exposed surface diameter: 1.16" (2,9 cm)

Note: *Pop-up height measured from the cover to the nozzle. Overall body height is measured popped down.*

Models

Part-circle units (PC) are adjustable from 40 -360 degrees.

- 3504-PC
- 3504-PC-NP
- 3504-PC-SAM
- 3504-PC-SAM-NP
- 3500-S
- 3500-S-SAM
- 3500-S-SAM-NP

● **3504-PC**

How To Specify

3504 - S - PC - SAM - NP

- ***Options*** *S = SAM; NP = Non-potable cover*
- ***Rotation*** *Part-circle*
- ***Model*** *Shrub*
- ***Model*** *3500 Series 4" pop-up*

3500 Nozzle Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
25	0.75	15	0.54	0.46	0.53
	1.0	20	0.77	0.37	0.43
	1.5	23	1.06	0.39	0.45
	2.0	27	1.40	0.37	0.43
	3.0	29	2.17	0.50	0.57
	4.0	31	2.97	0.59	0.69
35	0.75	17	0.67	0.45	0.52
	1.0	21	0.92	0.40	0.46
	1.5	23	1.28	0.47	0.54
	2.0	27	1.69	0.45	0.52
	3.0	31	2.60	0.52	0.60
	4.0	33	3.58	0.63	0.73
45	0.75	17	0.77	0.51	0.59
	1.0	21	1.06	0.46	0.53
	1.5	24	1.48	0.49	0.57
	2.0	27	1.93	0.51	0.59
	3.0	31	3.00	0.60	0.69
	4.0	35	4.13	0.65	0.75
55	0.75	18	0.85	0.51	0.58
	1.0	22	1.18	0.47	0.54
	1.5	24	1.65	0.55	0.64
	2.0	28	2.15	0.53	0.61
	3.0	32	3.25	0.61	0.71
	4.0	35	4.60	0.72	0.83

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

3500 Nozzle Performance METRIC

Pressure bars	Nozzle	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
1,7	0,75	4,6	0,12	2,04	12	14
	1,0	6,1	0,17	2,91	9	11
	1,5	7,0	0,24	4,01	10	11
	2,0	8,2	0,32	5,30	9	11
	3,0	8,8	0,49	8,21	13	15
	4,0	9,4	0,67	11,24	15	17
2,0	0,75	4,8	0,13	2,24	12	13
	1,0	6,2	0,19	3,14	10	11
	1,5	7,0	0,26	4,35	11	12
	2,0	8,2	0,34	5,74	10	12
	3,0	9,1	0,53	8,87	13	15
	4,0	9,7	0,73	12,17	16	18
2,5	0,75	5,2	0,16	2,58	12	13
	1,0	6,4	0,21	3,55	10	12
	1,5	7,0	0,30	4,94	12	14
	2,0	8,2	0,39	6,51	12	13
	3,0	9,4	0,60	10,03	13	16
	4,0	10,1	0,83	13,82	16	19
3,0	0,75	5,2	0,17	2,86	13	15
	1,0	6,4	0,24	3,93	12	13
	1,5	7,3	0,33	5,49	12	14
	2,0	8,2	0,43	7,17	13	15
	3,0	9,4	0,67	11,13	15	17
	4,0	10,6	0,92	15.32	16	19
3,5	0,75	5,4	0,19	3,09	13	15
	1,0	6,6	0,26	4,27	12	14
	1,5	7,3	0,36	5,97	13	15
	2,0	8,4	0,47	7,79	13	15
	3,0	9,6	0,71	11,90	15	18
	4,0	10,7	1,00	16,66	18	20
3,8	0,75	5,5	0,19	3,22	13	15
	1,0	6,7	0,27	4,47	12	14
	1,5	7,3	0,37	6,25	14	16
	2,0	8,5	0,49	8,14	13	15
	3,0	9,8	0,74	12,30	16	18
	4,0	10,7	1,04	17,41	18	21

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

5000/5000 Plus Series & 5000/5000 Plus PRS Series

NEW! PRS OPTION

The Next Evolution in Rotor Performance

- Performance – Rain Curtain™ nozzles
- Award-winning MPR nozzle set
- Reliability – Five-year trade warranty

Features

- The 5000/5000 Plus/5000 Plus PRS Series Rotors are available in 4", 6", 12", Shrub, and Stainless Steel (5000 Plus/5000 Plus PRS 4" & 6" only) models.
- Standard rubber cover for extra protection. 5000 Plus/5000 Plus PRS feature a green cover while the 5000 features a black cover.
- Heavy-duty cover assembly for extra durability in residential or commercial applications.
- Rain Curtain™ Nozzles.
- The 5000 Plus features a Flow Shut-Off device to stop the flow of water to a particular head while the system is still in operation.
- Slip clutch mechanism for quick adjustment.
- Heavy-duty retract spring assures positive pop-down.
- Tree of nozzles including four low angle (Angle of Trajectory 10°) and eight standard angle Rain Curtain™ Nozzles (Angle of Trajectory 25°) provides 25 to 50 (7,6 to 15,2 m) distance of throw.
- Award-winning MPR nozzle set simplifies design and installation by providing matched precipitation from 25' to 35' (7,6 to 10,7 m) (see page 58).
- Top-adjust arc adjustment requiring only a flat-blade screwdriver.
- Five-year trade warranty.
- 40 - 360° Arc Rotation and reversing full circle rotation in one. (A non-reversing full circle only unit is also available).
- Radius adjustment screw allows up to 25% radius reduction without changing nozzles.
- True 4" (10 cm) pop-up (measured from the cover to the nozzle).
- Pressure-activated multi-function wiper seal protects internals from debris and assures positive pop-up and retraction.
- Reinforced flow path for additional side load strength.
- Additional O-rings and seals for extra protection in "gritty" water.
- Optional stainless steel riser helps deter vandalism on public turf areas (4" and 6" 5000 Plus/5000 Plus PRS only).
- Optional pre-installed Rain Curtain™ nozzle.
- Optional Seal-A-Matic (SAM)™ check valve holds up to 7 feet (2,1 m) of elevation change, to prevent puddling and erosion caused by low head drainage.
- Optional non-potable purple cover for easy identification of reclaimed water.

● **5012-PL-FC, 5006-PL-FC, 5004-PL-FC, 5000-S-PL-FC**

How To Specify

5004-S-PL-PC-SAM-R-NP-SS

- ***Options*** *SAM; PRS; Non-potable cover*
- ***Rotation*** *"PC" for 40-360 degrees "FC" for 360 degree only*
- ***Model*** *Plus*
- ***Model*** *Shrub*
- ***Model*** *5000 Series 4" pop-up*
- ***Model*** *Stainless steel*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

5000/5000 Plus Series & 5000/5000 Plus PRS Series (continued)

Operating Range

- Precipitation rate: .20 to 1.01 inches per hour (5 to 26 mm/h)
- Radius: 25 to 50 feet (7,6 to 15,2 m)
- Radius may be reduced up to 25% with radius reduction screw
- Pressure: 25-65 psi (1,7 to 4,5 bars)
- Flow Rate: .73 to 9.63 GPM (4,2 to 36,6 l/m)

Specifications

- ¾" (20/27) NPT female bottom threaded inlet
- Reversing full and part circle adjustment 40° – 360°
- Full circle only adjustment 360°

Dimensions

- Pop-up height: Shrub; 4" (10,2 cm); 6" (15,2 cm); 12" (30,5 cm)
- Overall body height: Shrub: 7 ¾" (19,7cm) 4": 7 ⅜" (18, 5 cm); 6": 9 ⅝" (24,5 cm); 12": 16 ⅞" (42,9 cm)
- Exposed surface diameter: 1 ⅝" (4,1 cm)

Note: *Pop-up height measured from the cover to the nozzle. Overall body height is measured popped down.*

Optional PRS Features

NEW

- In-stem pressure regulator (PRS) reduces operating pressure to 45 psi (3,1 bars) for optimal nozzle performance.
- PRS saves water by:
  - eliminating head-to-head pressure variations.
  - eliminating misting due to high pressure.
  - improving nozzle distribution uniformity by operating the nozzle at optimum pressure.
- Maintenance-free design can be easily retrofitted into existing 5000/5000 Plus, T-Bird™ and Hunter® PGP™ (using UPG model) rotor bodies without digging up the entire body.
- Pressure: 25-75 psi (1,7 to 5,2 bars).

Models

Part-Circle units (PC) are adjustable from 40 –360 degrees.
Full-Circle units (FC) are 360 degrees only.

- 5000-S-(PC or FC)-(SAM)-(R)-(NP)
- 5004-(PC or FC)-(SAM)-(R)-(NP)
- 5006-(PC or FC)-(SAM)-(R)-(NP)
- 5012-(PC or FC)-(SAM)-(R)-(NP)
- 5000-S-PL-(PC or FC)-(SAM)-(R)-(NP)
- 5004-PL-(PC or FC)-(SAM)-(R)-(NP)-(SS)
- 5006-PL-(PC or FC)-(SAM)-(R)-(NP)-(SS)
- 5012-PL-(PC or FC)-(SAM)-(R)-(NP)

Note: *Many models are available with a 2.0 or 3.0 nozzle pre-installed.*

5004-UPG

Don't just change out a rotor, UPGrade it.

UPGrade to the UPG-5004 for:

- Designed to upgrade existing Hunter PGP™ rotors with the performance characteristics and feature set of Rain Bird's 5004 rotor.
- Faster and easier to leave the PGP case in the ground and only change out the main part of the rotor.
- Rain Curtain™ Technology which includes large droplet size, close-in water, and even distribution.
- Rapid installations - the available flow shut-off feature means the nozzle can be changed without shutting down the entire zone at the valve.
- Available Matched Precipitation Rate (MPR) nozzles.

Operating Range

- Precipitation rate: .20 to 1.01 inches per hour (5 to 26 mm/h)
- Radius: 25 to 50 feet (7,6 to 15,2 m)
- Pressure: 25-65 psi (1,7 to 4,5 bar)
- Optimal nozzle performance at 45 psi
- Flow Rate: .73 to 9.63 GPM (4,2 to 36,6 l/m)

Models

- UPGPC: 5000 UPG Series, 4"Part/Reverse Full Circle
- UPGPCS: 5000 UPG Series, 4"Part/Reverse Full Circle w/SAM
- UPGPLPC: 5000 Plus UPG Series, 4"Part/Reverse Full Circle
- UPGPLPCS: 5000 Plus UPG Series, 4"Part/Reverse Full Circle w/SAM

● 5004-UPG

How To Specify

UPG - PL - PC - S

- ***Options*** *SAM*
- ***Rotation*** *"PC" for 40-360 degrees*
- ***Plus Model*** *with cone valve for flow shut-off*
- ***Model*** *5004 UPG Rotor*

5000/5000 Plus Standard Angle Rain Curtain Nozzle Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
25	1.5	33	1.12	0.20	0.23
	2.0	35	1.50	0.24	0.27
	2.5	35	1.81	0.28	0.33
	3.0	36	2.26	0.34	0.39
	4.0	37	2.91	0.41	0.47
	5.0	39	3.72	0.47	0.54
	6.0	39	4.25	0.54	0.62
	8.0	36	5.90	0.88	1.01
35	1.5	34	1.35	0.22	0.26
	2.0	36	1.81	0.27	0.31
	2.5	37	2.17	0.31	0.35
	3.0	38	2.71	0.36	0.42
	4.0	40	3.50	0.42	0.49
	5.0	41	4.47	0.51	0.59
	6.0	43	5.23	0.54	0.63
	8.0	43	7.06	0.74	0.85
45	1.5	35	1.54	0.24	0.28
	2.0	37	2.07	0.29	0.34
	2.5	37	2.51	0.35	0.41
	3.0	40	3.09	0.37	0.43
	4.0	42	4.01	0.44	0.51
	5.0	45	5.09	0.48	0.56
	6.0	46	6.01	0.55	0.63
	8.0	47	8.03	0.70	0.81

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
55	1.5	35	1.71	0.27	0.31
	2.0	37	2.30	0.32	0.37
	2.5	37	2.76	0.39	0.45
	3.0	40	3.47	0.42	0.48
	4.0	42	4.44	0.48	0.56
	5.0	45	5.66	0.54	0.62
	6.0	47	6.63	0.58	0.67
	8.0	50	8.86	0.68	0.79
65	1.5	34	1.86	0.31	0.36
	2.0	35	2.52	0.40	0.46
	2.5	37	3.01	0.42	0.49
	3.0	40	3.78	0.45	0.53
	4.0	42	4.83	0.53	0.61
	5.0	45	6.16	0.59	0.68
	6.0	48	7.22	0.60	0.70
	8.0	50	9.63	0.74	0.86

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

5000/5000 Plus Standard Angle Rain Curtain Nozzle Performance

METRIC

Pressure bars	Nozzle	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
1,7	1,5	10,10	0,25	4,2	5	6
	2,0	10,70	0,34	5,4	6	7
	2,5	10,70	0,41	6,6	7	8
	3,0	11,00	0,51	8,4	8	10
	4,0	11,3	0,66	10,8	10	12
	5,0	11,90	0,84	13,8	12	14
	6,0	11,90	0,97	16,2	14	16
	8,0	11,00	1,34	22,2	22	26
2,0	1,5	10,20	0,28	4,8	5	6
	2,0	10,80	0,36	6,0	6	7
	2,5	10,90	0,44	7,2	7	9
	3,0	11,20	0,55	9,0	9	10
	4,0	11,6	0,71	12,0	11	12
	5,0	12,10	0,91	15,0	12	14
	6,0	12,40	1,05	17,4	14	16
	8,0	11,80	1,45	24,0	21	24
2,5	1,5	10,40	0,31	5,4	6	7
	2,0	11,00	0,41	6,6	7	8
	2,5	11,30	0,50	8,4	8	9
	3,0	11,20	0,62	10,2	9	11
	4,0	12,3	0,81	13,2	11	13
	5,0	12,70	1,03	17,4	13	15
	6,0	13,20	1,21	20,4	14	16
	8,0	13,30	1,63	27,0	19	21
3,0	1,5	10,60	0,34	6,0	6	7
	2,0	11,20	0,45	7,8	7	8
	2,5	11,30	0,56	9,6	9	10
	3,0	12,10	0,69	11,4	9	11
	4,0	12,7	0,89	15,0	11	13
	5,0	13,50	1,13	18,6	12	14
	6,0	13,90	1,34	22,2	14	16
	8,0	14,10	1,79	30,0	18	21
3,5	1,5	10,70	0,37	6,0	7	8
	2,0	11,30	0,49	8,4	8	9
	2,5	11,30	0,60	10,2	9	11
	3,0	12,20	0,74	12,6	10	12
	4,0	12,8	0,97	16,2	12	14
	5,0	13,70	1,23	20,4	13	15
	6,0	14,20	1,45	24,0	14	17
	8,0	14,90	1,93	32,4	18	20
4,0	1,5	10,60	0,40	6,6	7	8
	2,0	11,10	0,52	9,0	8	10
	2,5	11,30	0,64	10,8	10	12
	3,0	12,20	0,80	13,2	11	12
	4,0	12,8	1,04	17,4	13	15
	5,0	13,70	1,32	22,2	14	16
	6,0	14,90	1,55	25,8	15	17
	8,0	15,20	2,06	34,2	18	21
4,5	1,5	10,40	0,42	7,2	8	9
	2,0	10,70	0,55	9,0	10	11
	2,5	11,30	0,68	11,4	11	12
	3,0	12,20	0,84	13,8	11	13
	4,0	12,8	1,10	18,0	13	15
	5,0	13,70	1,40	23,4	15	17
	6,0	14,60	1,64	28,2	15	18
	8,0	15,20	2,19	36,6	19	22

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

5000/5000 Plus Low Angle Nozzle Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
25	1.0 LA	25	0.76	0.23	0.27
	1.5 LA	27	1.15	0.30	0.35
	2.0 LA	29	1.47	0.34	0.39
	3.0 LA	29	2.23	0.51	0.59
35	1.0 LA	28	0.92	0.23	0.26
	1.5 LA	30	1.38	0.30	0.34
	2.0 LA	31	1.77	0.35	0.41
	3.0 LA	33	2.68	0.47	0.55
45	1.0 LA	29	1.05	0.24	0.28
	1.5 LA	31	1.58	0.32	0.37
	2.0 LA	32	2.02	0.38	0.44
	3.0 LA	35	3.07	0.48	0.56
55	1.0 LA	29	1.17	0.27	0.31
	1.5 LA	31	1.76	0.35	0.41
	2.0 LA	33	2.24	0.40	0.46
	3.0 LA	36	3.41	0.51	0.58
65	1.0 LA	29	1.27	0.29	0.34
	1.5 LA	31	1.92	0.38	0.44
	2.0 LA	33	2.45	0.43	0.50
	3.0 LA	36	3.72	0.55	0.64

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

5000/5000 Plus Low Angle Nozzle Performance METRIC

Pressure bars	Nozzle	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
1,7	1,0 LA	7,60	0,17	3,0	6	7
	1,5 LA	8,20	0,26	4,2	8	9
	2,0 LA	8,80	0,33	5,4	9	10
	3,0 LA	8,80	0,51	8,4	13	15
2,0	1,0 LA	8,00	0,18	3,0	6	6
	1,5 LA	8,60	0,28	4,8	8	9
	2,0 LA	9,10	0,36	6,0	9	10
	3,0 LA	9,30	0,55	9,0	13	15
2,5	1,0 LA	8,60	0,20	3,6	5	6
	1,5 LA	9,20	0,32	5,4	8	9
	2,0 LA	9,50	0,41	6,6	9	10
	3,0 LA	10,10	0,62	10,2	12	14
3,0	1,0 LA	8,80	0,22	3,6	6	7
	1,5 LA	9,40	0,35	6,0	8	9
	2,0 LA	9,70	0,45	7,8	10	11
	3,0 LA	10,60	0,68	11,4	12	14
3,5	1,0 LA	8,80	0,24	4,2	6	7
	1,5 LA	9,40	0,38	6,6	9	10
	2,0 LA	9,90	0,49	8,4	10	11
	3,0 LA	10,80	0,74	12,6	13	15
4,0	1,0 LA	8,80	0,26	4,2	7	8
	1,5 LA	9,40	0,41	6,6	9	11
	2,0 LA	10,10	0,52	9,0	10	12
	3,0 LA	11,00	0,80	13,2	13	15
4,5	1,0 LA	8,80	0,27	4,8	7	8
	1,5 LA	9,40	0,44	7,2	10	11
	2,0 LA	10,10	0,56	9,0	11	13
	3,0 LA	11,00	0,84	13,8	14	16

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

5000/5000 Plus PRS Std. Angle Rain Curtain Nozzle Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
25	1.5	33	1.12	0.2	0.23
	2.0	35	1.5	0.24	0.27
	2.5	35	1.81	0.28	0.33
	3.0	36	2.26	0.34	0.39
	4.0	37	2.91	0.41	0.47
	5.0	39	3.72	0.47	0.54
	6.0	39	4.25	0.54	0.62
	8.0	36	5.9	0.88	1.01
35	1.5	34	1.35	0.22	0.26
	2.0	36	1.81	0.27	0.31
	2.5	37	2.17	0.31	0.35
	3.0	38	2.71	0.36	0.41
	4.0	40	3.5	0.42	0.49
	5.0	41	4.47	0.51	0.59
	6.0	43	5.23	0.54	0.63
	8.0	43	7.06	0.74	0.85
45	1.5	35	1.54	0.24	0.28
	2.0	37	2.07	0.29	0.34
	2.5	37	2.51	0.35	0.41
	3.0	40	3.09	0.37	0.43
	4.0	42	4.01	0.44	0.51
	5.0	45	5.09	0.48	0.56
	6.0	46	6.01	0.55	0.63
	8.0	47	8.03	0.7	0.81
55 – 75	1.5	35	1.59	0.25	0.29
	2.0	37	2.14	0.3	0.35
	2.5	37	2.6	0.37	0.42
	3.0	40	3.2	0.39	0.44
	4.0	42	4.15	0.45	0.52
	5.0	45	5.27	0.5	0.58
	6.0	46	6.22	0.57	0.65
	8.0	47	8.31	0.72	0.84

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

5000/5000 Plus PRS Std. Angle Rain Curtain Nozzle Performance METRIC

Pressure bars	Nozzle	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
1,7	1,5	10,1	0,25	4,20	5	6
	2,0	10,7	0,34	5,40	6	7
	2,5	10,7	0,41	6,60	7	8
	3,0	11,0	0,51	8,40	8	10
	4,0	11,3	0,66	10,80	10	12
	5,0	11,9	0,84	13,80	12	14
	6,0	11,9	0,97	16,20	14	16
	8,0	11,0	1,34	22,20	22	26
2,0	1,5	10,2	0,28	4,80	5	6
	2,0	10,8	0,36	6,00	6	7
	2,5	10,9	0,44	7,20	7	9
	3,0	11,2	0,55	9,00	9	10
	4,0	11,6	0,71	12,00	11	12
	5,0	12,1	0,91	15,00	12	14
	6,0	12,4	1,05	17,40	14	16
	8,0	11,8	1,45	24,00	21	24
2,5	1,5	10,4	0,31	5,40	6	7
	2,0	11,0	0,41	6,60	7	8
	2,5	11,3	0,50	8,40	8	9
	3,0	11,2	0,62	10,20	9	11
	4,0	12,3	0,81	13,20	11	13
	5,0	12,7	1,03	17,40	13	15
	6,0	13,2	1,21	20,40	14	16
	8,0	13,3	1,63	27,00	19	21
3,0	1,5	10,6	0,34	6,00	6	7
	2,0	11,2	0,45	7,80	7	8
	2,5	11,3	0,56	9,60	9	10
	3,0	12,1	0,69	11,40	9	11
	4,0	12,7	0,89	16,80	11	13
	5,0	13,5	1,13	18,60	12	14
	6,0	13,9	1,34	22,20	14	16
	8,0	14,1	1,79	30,00	18	21
3,5 – 5,2	1,5	10,6	0,35	6,00	6	7
	2,0	11,2	0,47	7,80	8	9
	2,5	11,3	0,58	10,20	9	11
	3,0	12,1	0,71	12,00	10	11
	4,0	12,7	0,92	15,60	12	13
	5,0	13,5	1,17	19,20	13	15
	6,0	13,9	1,39	22,80	14	17
	8,0	14,1	1,85	31,20	18	21

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

5000/5000 Plus PRS Low Angle Nozzle Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
25	1.0 LA	25	0.76	0.22	0.26
	1.5 LA	27	1.15	0.3	0.35
	2.0 LA	29	1.47	0.34	0.39
	3.0 LA	29	2.23	0.51	0.59
35	1.0 LA	28	0.92	0.21	0.25
	1.5 LA	30	1.38	0.3	0.34
	2.0 LA	31	1.77	0.35	0.41
	3.0 LA	33	2.68	0.47	0.55
45	1.0 LA	29	1.05	0.23	0.26
	1.5 LA	31	1.58	0.32	0.37
	2.0 LA	32	2.02	0.38	0.44
	3.0 LA	35	3.07	0.48	0.56
55 – 75	1.0 LA	29	1.09	0.25	0.29
	1.5 LA	31	1.64	0.33	0.38
	2.0 LA	32	2.09	0.39	0.45
	3.0 LA	35	3.18	0.5	0.58

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

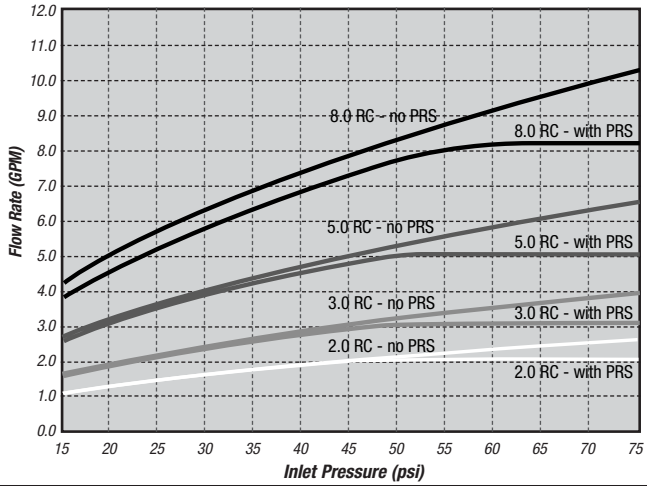
▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

5000/5000 Plus PRS Low Angle Nozzle Performance METRIC

Pressure bars	Nozzle	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
1,7	1,0 LA	7,6	0,17	3,00	6	7
	1,5 LA	8,2	0,26	4,20	8	9
	2,0 LA	8,8	0,33	5,40	9	10
	3,0 LA	8,8	0,51	8,40	13	15
2,0	1,0 LA	8,0	0,18	3,00	6	6
	1,5 LA	8,6	0,28	4,80	8	9
	2,0 LA	9,1	0,36	6,00	9	10
	3,0 LA	9,3	0,55	9,00	13	15
2,5	1,0 LA	8,6	0,20	3,60	5	6
	1,5 LA	9,2	0,32	5,40	8	9
	2,0 LA	9,5	0,41	6,60	9	10
	3,0 LA	10,1	0,62	10,20	12	14
3,0	1,0 LA	8,8	0,22	3,60	6	7
	1,5 LA	9,4	0,35	6,00	8	9
	2,0 LA	9,7	0,45	7,80	10	11
	3,0 LA	10,6	0,68	11,40	12	14
3,5 – 5,2	1,0 LA	8,8	0,23	3,60	6	7
	1,5 LA	9,4	0,36	6,00	8	10
	2,0 LA	9,7	0,47	7,80	10	12
	3,0 LA	10,6	0,70	12,00	13	15

Flow Rate v Inlet Pressure – Rain Curtain Nozzles



Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

● 5000/5000 Plus MPR Nozzles

5000/5000 Plus MPR Nozzles

Achieve Matched Precipitation Rate Between 25' and 35'

- Performance – Rain Curtain™ Technology
- Precipitation rate of 0.60 in/hr (15,2 mm/hr) within and between nozzle sets
- Color-coded by radius for easy identification

Features

- Three Nozzle trees of 25', 30', and 35' (7,6 m, 9,1 m, 10,7 m) radii.
- Each tree contains a Q (90°), T (120°), H (180°), and F (360°) Nozzle.
- No fixed arc plate required.
- Compatible with both the 5000 and 5000 Plus Rotor Series.
- Rain Curtain™ Technology provides:
  - Large droplets for consistent performance.
  - Effective close-in watering.
  - Even distribution over the entire radius.
- Precipitation rate of 0.60 in/hr (15,2 mm/hr) reduces run-off and erosion.
- Nozzles are easy to insert and remove.
- Stackable nozzle trees for convenient storage.

Models

- 5000-MPR-25: Tree of nozzles for 25-foot radius with Q, T, H, F Nozzles attached
- 5000-MPR-30: Tree of nozzles for 30-foot radius with Q, T, H, F Nozzles attached
- 5000-MPR-35: Tree of nozzles for 35-foot radius with Q, T, H, F Nozzles attached

How To Specify

5000 - MPR - 25 - Q

- ***Model*** *Rotor*
- ***Nozzle*** *Matched Precipitation Rate*
- ***Radius Range*** *25' 30' 35'*
- ***Pattern*** *Q=Quarter T=Third H=Half F=Full*

5000-MPR-25 (Red)

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
Quarter	25	23	0.74	0.54	0.62
	35	24	0.88	0.59	0.68
	45	25	1.00	0.62	0.71
	55	25	1.11	0.68	0.79
	65	25	1.21	0.75	0.86
Third	25	23	1.00	0.55	0.63
	35	24	1.21	0.61	0.70
	45	25	1.38	0.64	0.74
	55	25	1.53	0.71	0.82
	65	25	1.67	0.77	0.89
Half	25	23	1.44	0.52	0.61
	35	24	1.73	0.58	0.67
	45	25	1.98	0.61	0.70
	55	25	2.21	0.68	0.79
	65	25	2.41	0.74	0.86
Full	25	23	2.78	0.51	0.58
	35	24	3.34	0.56	0.64
	45	25	3.82	0.59	0.68
	55	25	4.25	0.65	0.76
	65	25	4.63	0.71	0.82

5000-MPR-25 (Red) METRIC

Nozzle	Pressure bars	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
Quarter	1,7	7,0	0,17	3,0	13,7	15,8
	2,4	7,3	0,20	3,6	14,9	17,3
	3,1	7,6	0,23	3,6	15,6	18,1
	3,8	7,6	0,25	4,2	17,4	20,1
	4,5	7,6	0,27	4,8	18,9	21,9
Third	1,7	7,0	0,23	3,6	13,9	16,0
	2,4	7,3	0,27	4,8	15,4	17,8
	3,1	7,6	0,31	5,4	16,2	18,7
	3,8	7,6	0,35	6,0	18,0	20,7
	4,5	7,6	0,38	6,6	19,6	22,6
Half	1,7	7,0	0,33	5,4	13,3	15,4
	2,4	7,3	0,39	6,6	14,7	17,0
	3,1	7,6	0,45	7,2	15,5	17,9
	3,8	7,6	0,50	8,4	17,3	20,0
	4,5	7,6	0,55	9,0	18,9	21,8
Full	1,7	7,0	0,63	10,8	12,8	14,8
	2,4	7,3	0,76	12,6	14,2	16,4
	3,1	7,6	0,87	14,4	14,9	17,3
	3,8	7,6	0,97	16,2	16,6	19,2
	4,5	7,6	1,05	17,4	18,1	20,9

5000-MPR-30 (Green)

Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
Quarter	25	29	1.03	0.47	0.54
	35	30	1.23	0.53	0.61
	45	30	1.40	0.60	0.69
	55	30	1.56	0.67	0.77
	65	30	1.69	0.72	0.83
Third	25	29	1.34	0.46	0.53
	35	30	1.62	0.52	0.60
	45	30	1.85	0.59	0.69
	55	30	2.06	0.66	0.76
	65	30	2.24	0.72	0.83
Half	25	29	2.15	0.49	0.57
	35	30	2.59	0.55	0.64
	45	30	2.96	0.63	0.73
	55	30	3.30	0.71	0.82
	65	30	3.60	0.77	0.89
Full	25	29	4.24	0.49	0.56
	35	30	5.08	0.54	0.63
	45	30	5.78	0.62	0.71
	55	30	6.39	0.68	0.79
	65	30	6.92	0.74	0.85

5000-MPR-30 (Green) METRIC

Nozzle	Pressure bars	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
Quarter	1,7	8,8	0,23	3,6	12,0	13,8
	2,4	9,1	0,28	4,8	13,4	15,4
	3,1	9,1	0,32	5,4	15,2	17,6
	3,8	9,1	0,35	6,0	17,0	19,6
	4,5	9,1	0,38	6,6	18,4	21,2
Third	1,7	8,8	0,30	4,8	11,7	13,5
	2,4	9,1	0,37	6,0	13,2	15,2
	3,1	9,1	0,42	7,2	15,1	17,4
	3,8	9,1	0,47	7,8	16,8	19,4
	4,5	9,1	0,51	8,4	18,3	21,1
Half	1,7	8,8	0,49	8,4	12,5	14,4
	2,4	9,1	0,59	9,6	14,1	16,2
	3,1	9,1	0,67	11,4	16,1	18,6
	3,8	9,1	0,75	12,6	17,9	20,7
	4,5	9,1	0,82	13,8	19,6	22,6
Full	1,7	8,8	0,96	16,2	12,3	14,2
	2,4	9,1	1,15	19,2	13,8	15,9
	3,1	9,1	1,31	21,6	15,7	18,1
	3,8	9,1	1,45	24,0	17,4	20,0
	4,5	9,1	1,57	26,4	18,8	21,7

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

5000-MPR-35 (Beige)					
Nozzle	Pressure psi	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
Quarter	25	32	1.40	0.53	0.61
	35	34	1.67	0.56	0.64
	45	35	1.92	0.60	0.70
	55	35	2.13	0.67	0.77
	65	35	2.31	0.73	0.84
Third	25	32	1.77	0.50	0.58
	35	34	2.15	0.54	0.62
	45	35	2.46	0.58	0.67
	55	35	2.74	0.65	0.75
	65	35	2.99	0.70	0.81
Half	25	32	2.75	0.52	0.60
	35	34	3.33	0.55	0.64
	45	35	3.81	0.60	0.69
	55	35	4.23	0.66	0.77
	65	35	4.62	0.73	0.84
Full	25	32	5.36	0.50	0.58
	35	34	6.62	0.55	0.64
	45	35	7.58	0.60	0.69
	55	35	8.43	0.66	0.76
	65	35	9.18	0.72	0.83

5000-MPR-35 (Beige) METRIC						
Nozzle	Pressure bars	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
Quarter	1,7	9,8	0,32	5,4	13,4	15,4
	2,4	10,4	0,38	6,6	14,1	16,3
	3,1	10,7	0,44	7,2	15,3	17,7
	3,8	10,7	0,48	7,8	17,0	19,6
	4,5	10,7	0,52	9,0	18,4	21,3
Third	1,7	9,8	0,40	6,6	12,7	14,6
	2,4	10,4	0,49	8,4	13,6	15,8
	3,1	10,7	0,56	9,6	14,7	17,0
	3,8	10,7	0,62	10,2	16,4	18,9
	4,5	10,7	0,68	11,4	17,9	20,7
Half	1,7	9,8	0,62	10,2	13,1	15,2
	2,4	10,4	0,76	12,6	14,1	16,3
	3,1	10,7	0,87	14,4	15,2	17,6
	3,8	10,7	0,96	16,2	16,9	19,5
	4,5	10,7	1,05	17,4	18,4	21,3
Full	1,7	9,8	1,22	20,4	12,8	14,8
	2,4	10,4	1,50	25,2	14,0	16,2
	3,1	10,7	1,72	28,8	15,1	17,5
	3,8	10,7	1,91	31,8	16,8	19,4
	4,5	10,7	2,09	34,8	18,3	21,2

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

5500 Series Rotors

Bigger, Better, Built to Last

- Performance – Rain Curtain™ nozzles
- Reliability – Vandal-resistant design
- Flexibility – Full and part circle operation in one unit

Features

- Eight Rain Curtain™ nozzles for optimal distribution and close-in watering resulting in superior uniformity.
- Five year trade warranty.
- Memory Arc® returns the rotor to its original arc setting.
- Non-strippable drive mechanism prevents damage from vandals.
- Brass reinforced nozzle turret to riser connection withstands attempted vandalism.
- Optional stainless steel riser model helps deter vandalism on public turf areas.
- Continuous full and part circle operation in one unit to reduce inventory requirements.
- Easy, wet, dry arc adjustment with slotted screwdriver through top of rotor from 50° to 330° part-circle, 360° non-reversing full-circle.
- Left and right side trips adjustable for ease of installation without turning the case and loosening the pipe connection.
- Seal-A-Matic™ (SAM) check device/riser to help prevent low head drainage.
- Water-lubricated gear drive.
- Nozzles are interchangeable from the front with no special tools.
- Self-adjusting stator allows nozzle replacement with no other adjustments required.
- Heavy duty retract spring ensures positive pop-down.
- Standard black rubber cover.
- Optional Purple rubber cover for non-potable applications.
- Small 1 ¾" (4,4 cm) exposed diameter reduces possibility of injury on play areas.

● 5505 ● 5512

How To Specify

5505 - SS - NP - 12

- **Model** 5500 Series: 5" pop-up
- **Optional Feature** Stainless steel riser (5" only)
- **Optional Feature** Non-potable rubber cover
- **Nozzle Size** 12

5500 Series (continued)

Operating Range

- Precipitation Rate: 0.23 to 1.4 in/hr (5,9 to 35,5 mm/h)
- Radius: 33 to 55 feet (10,1 to 16,8 m)
- Pressure: 30 to 90 psi (2,1 to 6,2 bars)
- Flow: 1.4 to 15.5 GPM (0,33 to 3,52 m^3/h; 5,4 to 58,8 l/m)

Specifications

- ¾" (20/27) NPT female threaded inlet
- SAM check device holds up to 10 feet (3,1 m) of head
- Rain Curtain nozzles: 2.0 - Orange, 3.0 - Red, 4.0 - Black, 5.0 - Yellow, 6.0 - Light Blue, 8.0 - Dark Green, 10.0 - Grey, 12.0 - Beige
- Nozzle outlet trajectory is 22°

Dimensions

- Exposed diameter: 1 ¾" (4,4 cm)
- Overall diameter: 2 ¾" (7,0 cm)
- Overall height: 9 ¼" (23,5 cm)
- Pop-up height: 5" (12,7 cm)

Note: Pop-up height is measured from cover to the primary nozzle port. Overall body height is measured popped down.

Models

- 5505: ¾" NPT female threaded inlet (5" plastic riser stem)
- 5505-SS: ¾" NPT female threaded inlet (5" stainless steel covered riser stem)
- 5512: ¾" NPT female threaded inlet (12" plastic riser stem)

5500 Series Nozzles

5500 Nozzle Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
30	2	33	1.2	0.21	0.25
	3	35	2.3	0.36	0.42
	4	37	2.4	0.34	0.39
	5	37	2.6	0.37	0.42
	6	39	4.2	0.53	0.61
	8	39	5.3	0.67	0.77
40	2	37	1.6	0.23	0.26
	3	39	2.7	0.34	0.39
	4	41	2.9	0.33	0.38
	5	41	3.5	0.40	0.46
	6	45	4.8	0.46	0.53
	8	45	6.4	0.61	0.70
	10	41	7.5	0.86	0.99
	12	39	10.1	1.28	1.48
50	2	37	1.7	0.24	0.28
	3	41	3.0	0.34	0.40
	4	43	3.3	0.34	0.40
	5	45	3.8	0.36	0.42
	6	47	5.4	0.47	0.54
	8	49	7.3	0.59	0.68
	10	47	8.9	0.78	0.90
	12	45	11.1	1.06	1.22
60	2	37	1.9	0.27	0.31
	3	41	3.3	0.38	0.44
	4	45	3.6	0.34	0.40
	5	47	4.8	0.42	0.48
	6	47	6.0	0.52	0.60
	8	51	8.2	0.61	0.70
	10	51	9.7	0.72	0.83
	12	51	12.3	0.91	1.05
70	2	39	2.1	0.27	0.31
	3	43	3.5	0.36	0.42
	4	45	3.9	0.37	0.43
	5	47	5.1	0.44	0.51
	6	47	6.5	0.57	0.65
	8	53	8.8	0.60	0.70
	10	53	11.1	0.76	0.88
	12	53	13.5	0.93	1.07
80	2	39	2.3	0.29	0.34
	3	43	3.8	0.40	0.46
	4	45	4.2	0.40	0.46
	5	47	5.5	0.48	0.55
	6	49	7.0	0.56	0.65
	8	53	9.5	0.65	0.75
	10	55	12.1	0.77	0.89
	12	55	14.4	0.92	1.06
90	10	55	13.1	0.83	0.96
	12	55	15.5	0.99	1.14

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

5500 Nozzle Performance — METRIC

Pressure bars	Nozzle	Radius m	Flow m³/h	Flow l/m	Precip mm/h ■	Precip mm/h ▲
2,1	2	10,1	0,32	4,54	6,3	7,3
	3	10,7	0,52	8,71	9,2	10,6
	4	11,3	0,59	9,08	9,3	10,7
	5	11,3	0,73	9,84	11,4	13,2
	6	11,3	0,86	15,90	13,6	15,7
	8	10,1	1,23	20,06	24,2	28,0
2,5	2	10,8	0,35	5,49	5,9	6,8
	3	11,4	0,58	9,65	8,9	10,2
	4	12,0	0,66	10,27	9,1	10,5
	5	12,0	0,81	11,97	11,2	12,9
	6	12,4	0,96	17,32	12,5	14,4
	8	11,2	1,37	22,67	21,8	25,2
3,0	2	11,3	0,38	6,19	6,0	6,9
	3	12,1	0,64	10,62	8,7	10,0
	4	12,7	0,74	11,51	9,1	10,5
	5	12,9	0,90	13,65	10,8	12,5
	6	13,3	1,07	18,97	12,1	13,9
	8	12,3	1,53	25,42	20,1	23,2
	10	13,1	1,74	30,25	20,1	23,2
	12	12,5	2,30	39,56	29,3	33,8
3,5	2	11,3	0,41	6,49	6,5	7,5
	3	12,5	0,69	11,44	8,8	10,2
	4	13,2	0,80	12,58	9,2	10,7
	5	13,8	0,98	14,67	10,4	12,0
	6	13,8	1,17	20,61	12,3	14,2
	8	13,2	1,67	27,89	19,3	22,3
	10	14,4	1,83	33,92	17,6	20,3
	12	13,9	2,54	42,36	26,5	30,6
4,0	2	11,3	0,45	7,04	7,0	8,1
	3	12,5	0,75	12,27	9,7	11,2
	4	13,6	0,85	13,40	9,2	10,6
	5	14,2	1,05	17,42	10,4	12,0
	6	14,2	1,25	22,26	12,4	14,3
	8	13,6	1,80	30,36	19,5	22,5
	10	15,3	2,12	36,11	18,1	20,9
	12	15,2	2,74	45,65	23,8	27,4
4,5	2	11,6	0,48	7,59	7,1	8,2
	3	12,8	0,80	12,89	9,7	11,2
	4	13,7	0,90	14,22	9,6	11,0
	5	14,3	1,12	18,77	10,9	12,6
	6	14,3	1,33	23,71	13,0	15,0
	8	14,0	1,92	32,23	19,5	22,5
	10	15,9	2,38	39,51	18,9	21,9
	12	15,9	2,94	48,95	23,3	26,9
5,0	2	11,9	0,51	8,14	7,2	8,3
	3	13,1	0,83	13,53	9,7	11,2
	4	13,7	0,95	15,05	10,1	11,6
	5	14,3	1,18	19,69	11,5	13,3
	6	14,5	1,41	25,08	13,4	15,5
	8	14,5	2,04	33,98	19,4	22,5
	10	16,3	2,60	42,97	19,5	22,5
	12	16,3	3,12	51,96	23,4	27,1
5,5	2	11,9	0,52	8,69	7,4	8,5
	3	13,1	0,88	14,36	10,3	11,9
	4	13,7	1,00	15,87	10,6	12,2
	5	14,3	1,25	20,78	12,2	14,0
	6	14,9	1,47	26,45	13,2	15,3
	8	14,9	2,15	35,90	19,3	22,3
	10	16,8	2,74	45,71	19,6	22,6
	12	16,8	3,27	54,43	23,3	26,9
6,0	10	16,8	2,91	48,46	20,7	23,9
	12	16,8	3,45	57,43	24,5	28,3
6,2	10	16,8	2,98	49,58	21,2	24,4
	12	16,8	3,52	58,66	25,1	28,9

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

Falcon® 6504

Uncompromising Performance

- Performance – Rain Curtain™ nozzles
- Easy to Use – Ratcheting slip clutch mechanism
- Flexibility – High-speed model completes full rotation in approximately one minute for quick wet-down of clay tennis courts and sports turf infield areas.

Features

- Rain Curtain™ nozzles with multiple ports for optimal long-range, mid-range, and close-in watering resulting in superior uniformity.
- Five-year trade warranty.
- Stainless steel riser option helps deter vandalism on public turf areas.
- Easy arc adjustment (part-circle model) through top of rotor from 40° to 360°.
- Water-lubricated gear drive for reliable, durable rotation.
- Heavy-duty, stainless steel retract spring ensures positive pop-down.
- Standard black rubber cover or optional purple rubber cover for non-potable water.
- Removable Seal-A-Matic™ (SAM) check device prevents puddling and erosion caused by low-head drainage.
- Nozzles are interchangeable from the front with no special tools.
- Self-adjusting stator does not require replacement when changing nozzles.
- Ratcheting slip clutch mechanism speeds installation.
- Radius adjustment screw allows radius reduction up to 25% without changing nozzles.
- Small 2" (5,1 cm) exposed diameter reduces possibility of injury in play areas.
- Patented, pressure-activated wiper seal and tapered riser stem on both plastic and stainless steel models protect internals from debris to ensure positive pop-up and retraction.
- 4" (10,2 cm) pop-up height to center line of nozzle clears taller turfgrass.
- Stainless steel trip gears ensure long-term durability.
- Optional non-potable rubber cover (purple).
- Falcon rotors can be ordered from the factory with nozzles pre-installed in case quantities as a special order.

● Falcon 6504

● Falcon 6504 Stainless Steel

How To Specify

F4- PC- SS- NP or HS- 16- P

- **Model** — F4: Falcon
- **Rotation** — Part-circle
- **Optional Feature** — Stainless steel riser
- **Optional Features** — Non-potable cover or, High-speed rotor
- **Nozzle Size** — 16
- **Optional Feature** — Pre-installed Nozzle

Note: For non-U.S. applications, it is necessary to specify NPT or BSP thread type.

Falcon® 6504 (continued)

Operating Range

- Precipitation Rate: 0.37 to 1.14 inches per hour (9 to 29 mm/h)
- Radius: 39 to 65 feet (11,9 to 19,8 m)
- Pressure: 30 to 90 psi (2,1 to 6,2 bars)
- Flow: 2.9 to 21.7 GPM (0,66 to 4,93 m³/h; 10,8 to 82,2 l/m)

Specifications

- 1" (26/34) female NPT or BSP threaded inlet
- SAM check device holds up to 10 feet (3,1 m) of elevation change
- Rain Curtain nozzles: 04-black; 06-light blue; 08-dark green; 10-grey; 12-beige; 14-light green; 16-dark brown; 18-dark blue
- Nozzle outlet trajectory is 25°

Dimensions

- Overall height: 8½" (21,6 cm)
- Pop-up height: 4" (10,2 cm)
- Exposed surface diameter: 2" (5,1 cm)

Note: *Pop-up height is measured from cover to center of nozzle. Overall body height is measured popped down.*

Models

- F4-FC: Full-circle
- F4-PC: Part-circle
- F4-FC-NP: Full-circle, non-potable cover
- F4-PC-NP: Part-circle, non-potable cover
- F4-FC-SS: Full-circle, stainless steel
- F4-PC-SS: Part-circle, stainless steel
- F4-FC-SS-HS: Full-circle, stainless steel, high speed rotation
- F4-PC-SS-HS: Part-circle, stainless steel, high speed rotation
- F4-FC-SS-NP: Full-circle, stainless steel, non-potable cover
- F4-PC-SS-NP: Part-circle, stainless steel, non-potable cover

Note: *All models available with BSP threads.*

Falcon® 6504 Nozzle Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
30	4	39	2.9	0.37	0.42
	6	43	4.2	0.44	0.50
40	4	41	3.3	0.38	0.44
	6	45	4.9	0.47	0.54
	8	49	6.6	0.53	0.61
	10	51	8.1	0.60	0.69
	12	53	9.7	0.66	0.77
	14	55	11.3	0.72	0.83
	16	55	12.6	0.80	0.93
	18	59	13.7	0.76	0.87
50	4	41	3.7	0.42	0.49
	6	49	5.5	0.44	0.51
	8	51	7.4	0.55	0.63
	10	53	9.1	0.62	0.72
	12	55	11.0	0.70	0.81
	14	59	12.7	0.70	0.81
	16	61	14.3	0.74	0.85
	18	59	15.4	0.85	0.98
60	4	41	4.0	0.46	0.53
	6	47	6.0	0.52	0.60
	8	51	8.2	0.61	0.70
	10	55	10.0	0.64	0.73
	12	57	12.2	0.72	0.83
	14	61	14.0	0.72	0.84
	16	63	15.7	0.76	0.88
	18	63	17.1	0.83	0.96
70	4	41	4.4	0.50	0.58
	6	49	6.3	0.51	0.58
	8	51	8.9	0.66	0.76
	10	57	10.8	0.64	0.74
	12	59	13.2	0.73	0.84
	14	61	15.2	0.79	0.91
	16	63	16.9	0.82	0.95
	18	65	18.3	0.83	0.96
80	4	43	4.6	0.48	0.55
	6	49	6.9	0.55	0.64
	8	53	9.4	0.64	0.74
	10	55	11.6	0.74	0.85
	12	61	14.0	0.72	0.84
	14	61	16.2	0.84	0.97
	16	63	18.1	0.88	1.01
	18	65	19.6	0.89	1.03
90	18	65	21.7	0.99	1.14

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

● **Falcon® 6504 Rain Curtain™ Nozzles**

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

Falcon® 6504 Nozzle Performance — METRIC

Pressure bars	Nozzle	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
2,1	4	11,9	0,66	10,98	9	11
	6	13,1	0,95	15,90	11	13
2,5	4	12,3	0,72	11,92	10	11
	6	13,5	1,05	17,56	12	13
	8	14,9	1,50	25,20	13	16
	10	15,5	1,84	30,60	15	18
	12	16,2	2,20	36,60	17	19
	14	16,8	2,57	42,60	18	21
	16	16,8	2,86	47,40	20	24
	18	18,0	3,11	51,60	19	22
3,0	4	12,5	0,78	13,02	10	12
	6	14,1	1,16	19,34	12	13
	8	15,1	1,56	26,04	14	16
	10	15,8	1,92	31,99	15	18
	12	16,4	2,31	38,44	17	20
	14	17,2	2,68	44,63	18	21
	16	17,4	3,00	49,95	20	23
	18	18,0	3,25	54,11	20	23
3,5	4	12,5	0,85	14,09	11	13
	6	14,9	1,26	20,96	11	13
	8	15,5	1,69	28,24	14	16
	10	16,2	2,08	34,70	16	18
	12	16,8	2,52	41,98	18	21
	14	18,0	2,91	48,45	18	21
	16	18,6	3,27	54,53	19	22
	18	18,1	3,53	58,78	22	25
4,0	4	12,5	0,89	14,91	11	13
	6	14,4	1,34	22,33	13	15
	8	15,5	1,83	30,44	15	17
	10	16,6	2,23	37,17	16	19
	12	17,3	2,72	45,28	18	21
	14	18,5	3,12	52,01	18	21
	16	19,1	3,50	58,37	19	22
	18	19,0	3,81	63,45	21	24

Pressure bars	Nozzle	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
4,5	4	12,5	0,96	15,94	12	14
	6	14,6	1,40	16,72	13	15
	8	15,5	1,95	32,43	16	19
	10	17,1	2,37	39,44	16	19
	12	17,7	2,89	48,17	18	21
	14	18,6	3,32	55,38	19	22
	16	19,2	3,71	61,82	20	23
	18	19,5	4,03	67,12	21	24
5,0	4	12,7	1,01	16,84	13	15
	6	14,9	1,47	15,08	13	15
	8	15,7	2,05	34,16	17	19
	10	17,2	2,50	41,64	17	19
	12	18,1	3,04	50,72	19	21
	14	18,6	3,51	58,49	20	23
	16	19,2	3,91	65,11	21	24
	18	19,8	4,23	70,51	22	25
5,5	4	13,1	1,04	17,39	12	14
	6	14,9	1,56	25,79	14	16
	8	16,1	2,13	35,54	16	19
	10	16,8	2,63	43,84	19	22
	12	18,6	3,18	52,92	18	21
	14	18,6	3,67	61,23	21	25
	16	19,2	4,10	68,40	22	26
	18	19,8	4,44	74,07	23	26
6,0	18	19,8	4,79	79,77	24	28
6,2	18	19,8	4,93	82,13	25	29

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

High-Speed Falcon® 6504 Nozzle Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
30	4	37	3.0	0.42	0.49
	6	39	4.3	0.54	0.63
40	4	41	3.5	0.40	0.46
	6	43	6.0	0.62	0.72
	8	47	6.6	0.58	0.66
	10	47	8.1	0.71	0.82
	12	49	9.9	0.79	0.92
	14	53	11.4	0.78	0.90
	16	51	12.6	0.93	1.08
	18	53	13.9	0.95	1.10
50	4	41	3.7	0.42	0.49
	6	45	5.6	0.53	0.62
	8	49	7.5	0.60	0.69
	10	49	9.2	0.74	0.85
	12	53	11.2	0.77	0.89
	14	53	12.9	0.88	1.02
	16	53	14.3	0.98	1.13
	18	55	15.6	0.99	1.15
60	4	41	4.2	0.48	0.56
	6	45	6.2	0.59	0.68
	8	47	8.3	0.72	0.84
	10	49	10.2	0.82	0.94
	12	53	12.4	0.85	0.98
	14	53	14.2	0.97	1.12
	16	55	15.7	1.00	1.15
	18	59	17.2	0.95	1.10
70	4	41	4.6	0.53	0.61
	6	43	6.7	0.70	0.81
	8	49	9.0	0.72	0.83
	10	51	11.1	0.82	0.95
	12	55	13.5	0.86	0.99
	14	53	15.3	1.05	1.21
	16	57	17.1	1.01	1.17
	18	59	18.6	1.03	1.19
80	4	39	4.9	0.62	0.72
	6	43	7.1	0.74	0.85
	8	51	9.7	0.72	0.83
	10	49	11.9	0.95	1.10
	12	55	14.4	0.92	1.06
	14	53	16.5	1.13	1.31
	16	59	18.4	1.02	1.18
	18	59	20.0	1.11	1.28
90	18	61	21.3	1.10	1.27

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

High-Speed Falcon® 6504 Nozzle Performance — METRIC

Pressure bars	Nozzle	Radius m	Flow m³/h	Flow l/m	Precip ■ mm/h	Precip ▲ mm/h
2,1	4	11,3	0,68	11,35	11	12
	6	11,9	0,98	15,90	14	16
2,5	4	12,0	0,75	12,54	10	12
	6	12,7	1,22	20,16	15	18
	8	14,2	1,49	25,20	15	17
	10	14,2	1,83	30,60	18	21
	12	14,8	2,24	37,20	20	24
	14	16,0	2,58	43,20	20	23
	16	15,4	2,85	47,40	24	28
	18	16,0	3,15	52,80	24	28
3,0	4	12,5	0,81	13,51	10	12
	6	13,3	1,33	22,18	15	17
	8	14,5	1,57	26,18	15	17
	10	14,5	1,93	32,12	18	21
	12	15,4	2,35	39,20	20	23
	14	16,2	2,71	48,09	21	24
	16	15,8	3,00	49,95	24	28
	18	16,4	3,29	54,87	25	28
3,5	4	12,5	0,85	14,15	11	13
	6	13,7	1,28	21,37	14	16
	8	14,9	1,72	28,62	16	18
	10	14,9	2,11	35,11	19	22
	12	16,2	2,56	42,74	20	23
	14	16,2	2,95	49,20	23	26
	16	16,2	3,27	54,53	25	29
	18	16,9	3,57	59,51	25	29
4,0	4	12,5	0,93	15,52	12	14
	6	13,7	1,38	23,02	15	17
	8	14,4	1,85	30,81	18	21
	10	14,9	2,27	37,86	20	24
	12	16,2	2,76	46,03	21	24
	14	16,2	3,17	52,77	24	28
	16	16,6	3,50	58,37	25	29
	18	17,7	3,83	63,90	24	28
4,5	4	12,5	1,00	16,69	13	15
	6	13,4	1,48	24,46	16	19
	8	14,6	1,97	32,81	18	21
	10	15,3	2,42	40,40	21	24
	12	16,5	2,95	49,13	22	25
	14	16,2	3,36	55,94	26	30
	16	17,1	3,73	62,22	26	30
	18	18,0	4,07	67,89	25	29
5,0	4	12,3	1,06	17,70	14	16
	6	13,1	1,56	25,74	18	21
	8	15,1	2,08	34,73	18	21
	10	15,4	2,57	42,78	22	25
	12	16,8	3,12	51,96	22	26
	14	16,2	3,54	59,06	27	31
	16	17,5	3,96	65,96	26	30
	18	18,0	4,30	71,74	27	31
5,5	4	11,9	1,11	18,52	16	18
	6	13,1	1,61	26,84	19	22
	8	15,5	2,20	36,65	18	21
	10	14,9	2,70	44,97	24	28
	12	16,8	3,27	54,43	23	27
	14	16,2	3,74	62,35	29	33
	16	18,0	4,17	69,53	26	30
	18	18,0	4,53	75,58	28	32
6,0	18	18,4	4,75	79,16	28	32
6,2	18	18,6	4,84	80,62	28	32

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

7005

Bigger, Better, Built to Last

- Performance – Rain Curtain™ nozzles
- Reliability – Vandal-resistant design
- Flexibility – Full- and part-circle operation in one unit

Features

- Rain Curtain™ nozzles with multiple ports for optimal long-range, mid-range, and close-in watering resulting in superior uniformity.
- Five year trade warranty.
- Memory Arc® returns the rotor to its original arc setting.
- Non-strippable drive mechanism prevents damage from vandals.
- Brass reinforced nozzle turret to riser connection withstands attempted vandalism.
- Optional stainless steel riser model helps deter vandalism on public turf areas.
- Easy, wet, dry arc adjustment with slotted screwdriver through top of rotor from 50° to 330° part-circle, 360° non-reversing full-circle.
- Continuous full- and part-circle operation in one unit to reduce inventory requirements.
- Left and right side arc settings adjustable for ease of installation without turning the case and loosening the pipe connection.
- Seal-A-Matic™ (SAM) check device/riser to help prevent low head drainage.
- Water-lubricated gear drive.
- Standard rubber cap. (Black)
- Nozzles are interchangeable from the front with no special tools.
- Self-adjusting stator allows nozzle replacement with no other adjustments required.
- Heavy duty retract spring ensures positive pop-down.
- Small (1⅞") exposed diameter reduces possibility of injury in play areas.
- Optional non-potable rubber cover (purple).

Operating Range

- Precipitation Rate: 0.48 to 0.98 inches per hour (12 to 25 mm/h)
- Radius: 39 to 71 feet (11,9 to 21,7 m)
- Pressure: 50 to 90 psi (3,5 to 6,2 bars)
- Flow: 3.8 to 22.2 GPM (0,86 to 5,04 m³/h; 14,4 to 84 l/m)

● 7005 ● 7005-SS

How To Specify

7005- SS- NP- 18

- **Model** 7005
- **Optional Feature** Stainless steel riser
- **Optional Features** Non-potable cover
- **Nozzle Size** 14

Note: For non-U.S. applications, it is necessary to specify NPT or BSP thread type.

7005 Series (continued)

Specifications

- 1" (26/34) NPT or BSP female threaded inlet
- SAM check device holds up to 10 feet of head
- Rain Curtain nozzles: 04 - black; 06 - light blue; 08 - dark green; 10 - gray; 12 - beige; 14 - light green; 16 - dark brown; 18 - dark blue
- Nozzle outlet trajectory is 25º

Dimensions

- Exposed diameter: 1 7/8" (4,8 cm)
- Overall diameter: 3 1/8" (7,9 cm)
- Overall height: 10 1/8" (25,7 cm)
- Pop-up height: 5" (12,7 cm)

Note: Pop-up height is measured from cover to center of nozzle. Overall body height is measured popped down.

Models

- 7005: 1" NPT female threaded inlet (plastic riser stem).
- 7005-SS: 1" NPT female threaded inlet (stainless steel covered riser stem).
- Optional non-potable rubber cover (purple)

**Note: All models available with BSP threads*

7005 Nozzle Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
50	04	39	3.8	0.48	0.56
	06	45	5.6	0.53	0.62
	08	49	6.6	0.53	0.61
	10	53	9.3	0.64	0.74
	12	57	11.1	0.66	0.76
	14	59	12.6	0.70	0.81
	16	61	14.3	0.74	0.85
	18	63	16.1	0.78	0.90
60	04	39	3.8	0.48	0.56
	06	45	6.1	0.58	0.67
	08	49	8.4	0.67	0.78
	10	53	10.1	0.69	0.80
	12	59	12.0	0.66	0.77
	14	61	14.3	0.74	0.85
	16	65	15.9	0.72	0.84
	18	65	17.8	0.81	0.94
70	04	39	4.7	0.60	0.69
	06	45	6.7	0.64	0.74
	08	49	9.0	0.72	0.83
	10	55	11.1	0.71	0.82
	12	59	13.2	0.73	0.84
	14	63	15.3	0.74	0.86
	16	67	17.2	0.74	0.85
	18	67	19.3	0.83	0.96
80	04	39	5.0	0.63	0.73
	06	45	7.1	0.68	0.78
	08	49	9.8	0.79	0.91
	10	55	11.8	0.75	0.87
	12	61	14.2	0.73	0.85
	14	63	16.4	0.80	0.92
	16	67	18.6	0.80	0.92
	18	69	20.9	0.85	0.98
90	14	65	17.9	0.82	0.94
	16	69	20.0	0.81	0.93
	18	71	22.2	0.85	0.98

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

7005 Nozzle Performance								METRIC
Pressure bars		Nozzle	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
3,5	●	4	11,9	0,86	14,38	12	14
	●	6	13,7	1,28	21,34	14	16
	●	8	14,9	1,59	25,50	14	16
	●	10	16,1	2,10	35,43	16	19
	●	12	17,5	2,52	42,27	16	19
	●	14	18,1	2,92	48,18	18	21
	●	16	19,0	3,29	54,59	18	21
	●	18	19,3	3,70	61,43	20	23
4,0	●	4	11,9	0,93	14,38	13	15
	●	6	13,7	1,37	22,71	15	17
	●	8	14,9	1,75	30,44	16	18
	●	10	16,3	2,30	37,63	17	20
	●	12	17,7	2,70	44,74	17	20
	●	14	18,5	3,13	52,85	18	21
	●	16	19,4	3,52	58,98	19	22
	●	18	19,7	3,95	66,10	20	24
4,5	●	4	11,9	1,00	16,18	14	16
	●	6	13,7	1,45	24,28	15	18
	●	8	14,9	1,92	32,99	17	20
	●	10	16,5	2,40	40,22	18	20
	●	12	18,0	2,87	47,81	18	20
	●	14	18,8	3,34	56,12	19	22
	●	16	19,8	3,75	62,77	19	22
	●	18	20,1	4,21	70,36	21	24

Pressure bars		Nozzle	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
5,0	●	4	11,9	1,06	18,08	15	17
	●	6	13,7	1,54	25,74	16	19
	●	8	14,9	2,09	34,83	19	22
	●	10	16,7	2,50	42,68	18	21
	●	12	18,3	3,05	50,92	18	21
	●	14	19,1	3,54	58,96	19	22
	●	16	20,2	3,98	66,44	20	23
	●	18	20,6	4,46	74,58	21	24
5,5	●	4	11,9	1,13	18,90	16	18
	●	6	13,7	1,62	26,84	17	20
	●	8	14,9	2,25	37,02	20	23
	●	10	16,8	2,70	44,60	19	22
	●	12	18,5	3,23	53,66	19	22
	●	14	19,4	3,75	61,98	20	23
	●	16	20,6	4,22	70,28	20	23
	●	18	21,0	4,71	78,97	21	25
6,0	●	14	19,7	3,96	66,06	20	24
	●	16	21,0	4,45	74,12	20	23
	●	18	21,5	4,96	82,56	21	25
6,2	●	14	19,8	4,06	67,75	21	24
	●	16	21,0	4,54	75,70	21	24
	●	18	21,7	5,04	84,02	21	25

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

● 7005 Rain Curtain™ Nozzles

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

8005

Bigger, Better, Built to Last

- Performance – Rain Curtain™ nozzles
- Reliability – Vandal-resistant design
- Flexibility – Full- and part-circle operation in one unit

Features

- Rain Curtain™ nozzles with multiple ports for optimal long-range, mid-range, and close-in watering resulting in superior uniformity.
- Five year trade warranty.
- Memory Arc® returns the rotor to its original arc setting.
- Non-strippable drive mechanism prevents damage from vandals.
- Brass reinforced nozzle turret to riser connection withstands attempted vandalism.
- Optional stainless steel riser model helps deter vandalism on public turf areas.
- Easy, wet, dry arc adjustment with slotted screwdriver through top of rotor from 50° to 330° part-circle, 360° non-reversing full-circle.
- Continuous full- and part-circle operation in one unit to reduce inventory requirements.
- Left and right side arc settings adjustable for ease of installation without turning the case and loosening the pipe connection.
- Seal-A-Matic™ (SAM) check device/riser to help prevent low head drainage.
- Water-lubricated gear drive.
- Standard rubber cap. (Green)
- Nozzles are interchangeable from the front with no special tools.
- Self-adjusting stator allows nozzle replacement with no other adjustments required.
- Heavy duty retract spring ensures positive pop-down.
- Small (1⅞") exposed diameter reduces possibility of injury in play areas.
- Optional non-potable rubber cover (purple).

How To Specify

8005- SS- NP- 26

Model
8005

Nozzle Size
26

Optional Features
Non-potable rubber collar

Optional Feature
Stainless steel riser

Note: For non-U.S. applications, it is necessary to specify NPT or BSP thread type.

● 8005-SS ● 8005

Operating Range

- Radius: 57 to 81 feet (17,4 to 24,7 m)
- Pressure: 50 to 100 psi (3,5 to 6,9 bars)
- Flow: 11.1 to 36.3 GPM (2,54 to 8,24 m^3/h; 42 to 137,4 l/m)

Specifications

- 1" (26/34) NPT or BSP female threaded inlet
- SAM check device holds up to 10 feet (3,1 m) of head
- Rain Curtain nozzles:* 12 - beige; 14 - light green; 16 - dark brown; 18 - dark blue; 20 - red; 22 - yellow; 24 - orange; 26 - white
- Nozzle outlet trajectory is 25°

** Note: Nozzles 20, 22, 24, and 26 are keyed to fit only in the 8005 rotor.*

Dimensions

- Exposed diameter: 1 7/8" (4,8 cm)
- Overall diameter: 3 1/8" (7,9 cm)
- Overall height: 10 1/8" (25,7 cm)
- Pop-up height: 5" (12,7 cm)

Note: Pop-up height is measured from cover to center of primary nozzle port. Overall body height is measured popped down.

Models

- 8005: 1" NPT female threaded inlet (plastic riser stem).
- 8005-SS: 1" NPT female threaded inlet (stainless steel covered riser stem).
- Optional non-potable rubber cover (purple)

**Note: All models available with BSP threads*

8005 Nozzle Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
50	12	57	11.1	0.66	0.76
	14	59	12.6	0.70	0.81
	16	61	14.3	0.74	0.85
	18	63	16.1	0.78	0.90
	20	65	18.6	0.85	0.98
	22	65	20.7	0.94	1.09
	24	63	22.3	1.08	1.25
	26	65	24.3	1.11	1.28
60	12	59	12.0	0.66	0.77
	14	61	14.3	0.74	0.85
	16	65	15.9	0.72	0.84
	18	65	17.8	0.81	0.94
	20	67	20.1	0.86	1.00
	22	71	23.2	0.89	1.02
	24	69	24.7	1.00	1.15
	26	73	26.7	0.96	1.11
70	12	59	13.2	0.73	0.84
	14	63	15.3	0.74	0.86
	16	67	17.2	0.74	0.85
	18	67	19.3	0.83	0.96
	20	71	22.0	0.84	0.97
	22	73	25.2	0.91	1.05
	24	75	27.0	0.92	1.07
	26	75	29.4	1.01	1.16
80	12	61	14.2	0.73	0.85
	14	63	16.4	0.80	0.92
	16	67	18.6	0.80	0.92
	18	69	20.9	0.85	0.98
	20	71	23.9	0.91	1.05
	22	75	27.3	0.93	1.08
	24	77	29.2	0.95	1.10
	26	79	31.5	0.97	1.12
90	12	61	14.7	0.76	0.88
	14	65	17.9	0.82	0.94
	16	69	20.0	0.81	0.93
	18	71	22.2	0.85	0.98
	20	73	25.3	0.91	1.06
	22	75	29.1	1.00	1.15
	24	79	31.0	0.96	1.10
	26	79	33.7	1.04	1.20
100	20	75	26.8	0.85	0.97
	22	77	30.7	1.00	1.15
	24	79	32.8	1.01	1.17
	26	81	36.3	1.07	1.23

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

8005 (continued)

8005 Nozzle Performance — METRIC

Pressure bars	Nozzle	Radius m	Flow m³/h	Flow l/m	Precip ■ mm/h	Precip ▲ mm/h
3,5	12	17,4	2,54	42,27	17	19
	14	18,0	2,89	48,18	18	21
	16	18,7	3,28	54,59	19	22
	18	19,2	3,69	61,43	20	23
	20	19,9	4,25	70,83	21	25
	22	20,0	5,08	79,07	25	29
	24	19,3	5,11	85,10	27	32
	26	20,0	5,57	92,67	28	32
4,0	12	17,9	2,68	44,74	17	19
	14	18,5	3,17	52,85	19	21
	16	19,6	3,54	58,98	18	21
	18	19,7	3,97	66,10	20	24
	20	20,3	4,50	74,95	22	25
	22	21,3	5,23	85,94	23	27
	24	20,7	5,50	91,69	26	30
	26	21,8	6,01	99,26	25	29
4,5	12	18,0	2,87	47,81	18	20
	14	18,9	3,37	56,12	19	22
	16	20,1	3,77	62,77	19	22
	18	20,1	4,22	70,36	21	24
	20	21,1	4,79	79,87	22	25
	22	22,0	5,51	91,80	23	26
	24	22,0	5,88	98,08	24	28
	26	22,6	6,42	106,44	25	29
5,0	12	18,1	3,06	50,92	19	22
	14	19,2	3,54	58,96	19	22
	16	20,4	3,99	66,44	19	22
	18	20,6	4,47	74,58	21	24
	20	21,6	5,11	85,08	22	25
	22	22,4	5,84	97,39	23	27
	24	23,0	6,26	104,29	24	27
	26	23,2	6,80	113,28	25	29
5,5	12	18,6	3,22	53,66	19	21
	14	19,2	3,72	61,98	20	23
	16	20,4	4,22	70,28	20	23
	18	21,0	4,74	78,97	21	25
	20	21,6	5,42	90,30	23	27
	22	22,8	6,19	103,15	24	28
	24	23,5	6,62	110,33	24	28
	26	24,1	7,14	119,05	25	28
6,0	12	18,6	3,30	55,07	19	22
	14	19,6	3,96	66,06	21	24
	16	20,9	4,45	74,12	20	24
	18	21,5	4,95	82,56	21	25
	20	22,1	5,65	94,18	23	27
	22	22,9	6,71	108,12	26	30
	24	23,9	6,92	115,31	24	28
	26	24,1	7,50	125,08	26	30
6,5	20	22,5	5,89	98,19	23	27
	22	23,4	6,84	112,73	25	29
	24	24,1	7,22	120,25	25	29
	26	24,3	7,91	131,76	27	31
6,9	20	22,9	6,09	101,43	23	27
	22	23,5	6,97	116,19	25	29
	24	24,1	7,45	124,14	26	30
	26	24,7	8,24	137,39	27	31

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

115-E Rotor

Maximum Throw for Unparalleled Performance

- Performance – Factory preset, integral pressure regulation and Rain Curtain™ nozzles provide superior nozzle performance.
- Reliability – Heavy duty, top serviceable gear drive design with replaceable components is backed by a 5 year warranty.
- Flexibility – 115 ft spacing, valve-in-head construction and adjustable rotation speed allows for maximum control in a wide variety of applications.

Features

- Factory installed color-coded Rain Curtain™ nozzles with multiple ports for optimal long-range, mid-range, and close-in watering resulting in superior uniformity.
- Water-lubricated, heavy-duty, and replaceable gear drive offers reliable, durable rotation in an environmentally friendly design.
- Five-year trade warranty.
- Standard rubber cover for added safety on playing surfaces.
- 130 psi (9,0 bars) operating pressure rating ensures long life at high pressure.
- The 115-E part-circle model offers 30° to 360° reversing full-circle operation. Non-reversing full-circle model is also available.
- Settable stator allows for adjustable rotation time from 1.5 to 4 minutes syringing.
- Diffuser screw allows radius reduction up to 10 percent without changing nozzles.
- True closed-case design with self-flushing action prevents internal from sticking up.
- Easy arc adjustment from the top requires no special tools for fast modifications.

Operating Range

- Precipitation Rate: 0.41 to 0.74 inches per hour (11 to 19 mm/hr)
- Radius: 85 - 115 feet (25,9 to 35,1 m)
- Factory Pressure Settings: 80 psi (5,5 bars), 100 psi (6,8 bars), 120 psi (8,3 bars) (Fully Open)
- Flow: 40.6 to 72.9 GPM (7,3 to 16,56 m^3/h; 120 to 276 l/m)

Specifications

- Stopamatic valve in head holds back 15 feet (4,6m)
- 1.5" (3,8 cm) inlet (15/21) female NPT or BSP
- Nozzle outlet trajectory: 25°
- Case Type: Heavy duty, reinforced polypropylene w/ snap cover accessibility and Top-Serviceable Rock Screen™
- Maximum Stream Height: 24 feet (7,3 m)

● 115-E Rotor

How To Specify

115-E - XX - XX - XXX - XXX

- ***Model***: *PC*, *FC*
- ***Nozzle***: *48*, *57*, *63*, *66*
- ***Pressure Regulator***: *80 (5,5)*, *100 (6,9)*, *Fully Open 120 (8,27)*
- ***Thread Type***: *NPT*, *BSP*

115-E Rotor (continued)

Dimensions

- Body Height: 13.4" (34,0 cm)
- Top Diameter: 8.25" (21,0 cm)
- Pop-up Height: 3.25" (8,3 cm)

Models and Options

- Available in Electric Valve-in-Head, part-circle and full-circle models
- Standard rubber cover
- Color coded nozzles
- Optional artificial grass cover
- Optional artificial grass cover without artificial grass for custom artificial grass installation

115-E FC Performance - Dual Spreader™ Nozzles

Regulated Pressure - psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
70	48 Blue	85	40.6	0.54	0.62
	57 Yellow	88	46.9	0.58	0.67
	63 Orange	94	51.1	0.56	0.64
	66 Green	-	-	-	-
80	48 Blue	89	43.7	0.53	0.61
	57 Yellow	91	50.3	0.58	0.68
	63 Orange	99	56.3	0.55	0.64
	66 Green	101	59.0	0.56	0.64
90	48 Blue	91	46.5	0.54	0.62
	57 Yellow	93	53.7	0.60	0.69
	63 Orange	101	58.4	0.55	0.64
	66 Green	104	62.9	0.56	0.65
100	48 Blue	95	48.3	0.52	0.59
	57 Yellow	94	56.9	0.62	0.72
	63 Orange	105	62.9	0.55	0.63
	66 Green	109	66.4	0.54	0.62
110	48 Blue	96	50.8	0.53	0.61
	57 Yellow	96	60.0	0.63	0.72
	63 Orange	107	64.8	0.54	0.63
	66 Green	111	69.9	0.55	0.63
120 (Fully Open)	48 Blue	97	53.1	0.54	0.63
	57 Yellow	97	62.7	0.64	0.74
	63 Orange	109	69.3	0.56	0.65
	66 Green	115	72.9	0.53	0.61

115-E FC Performance - Dual Spreader™ Nozzles METRIC

Regulated Pressure - bar	Nozzle	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
4,8	48 Blue	25,9	9,22	153,66	14	16
	57 Yellow	26,8	10,65	177,51	15	17
	63 Orange	28,7	11,61	193,40	14	16
	66 Green	-	-	-	-	-
5,0	48 Blue	26,2	9,40	156,63	14	16
	57 Yellow	27,1	10,85	180,76	15	17
	63 Orange	29,0	11,90	198,38	14	16
	66 Green	-	-	-	-	-
5,5	48 Blue	27,1	9,91	165,14	13	16
	57 Yellow	27,7	11,41	190,09	15	17
	63 Orange	30,1	12,76	212,65	14	16
	66 Green	30,7	13,38	165,00	14	16
6,0	48 Blue	27,6	10,37	172,85	14	16
	57 Yellow	28,2	11,97	199,42	15	17
	63 Orange	30,6	13,12	218,67	14	16
	66 Green	31,4	14,02	233,68	14	16
6,5	48 Blue	28,3	10,74	178,91	13	16
	57 Yellow	28,5	12,51	208,43	15	18
	63 Orange	31,3	13,70	228,33	14	16
	66 Green	32,4	14,63	243,74	14	16
7,0	48 Blue	29,0	11,06	184,26	13	15
	57 Yellow	28,7	13,03	217,16	16	18
	63 Orange	32,1	14,35	239,17	14	16
	66 Green	33,3	15,20	253,35	14	16
7,5	48 Blue	29,2	11,47	191,12	13	16
	57 Yellow	29,2	13,54	225,67	16	18
	63 Orange	32,5	14,66	244,39	14	16
	66 Green	33,8	15,78	262,95	14	16
8,0	48 Blue	29,4	11,85	197,53	14	16
	57 Yellow	29,4	14,00	233,26	16	19
	63 Orange	33,0	15,33	255,55	14	16
	66 Green	34,6	16,29	271,42	14	16
8,3 (Fully Open)	48 Blue	29,6	12,06	200,97	14	16
	57 Yellow	29,6	14,24	237,31	16	19
	63 Orange	33,2	15,74	262,29	14	16
	66 Green	35,1	16,56	275,91	13	16

Proper operation requires base pressure to be a minimum of 15 psi (1,03 bar) higher than regulation pressure.

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

115-E PC Performance - Dual Spreader™ Nozzles

Regulated Pressure - psi		Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
70	●	48 Blue	85	32.1	0.43	0.49
	●	57 Yellow	87	39.3	0.50	0.58
	●	63 Orange	-	-	-	-
	●	66 Green	-	-	-	-
80	●	48 Blue	91	35.7	0.41	0.48
	●	57 Yellow	93	43.0	0.48	0.55
	●	63 Orange	100	48.6	0.47	0.54
	●	66 Green	97	52.5	0.54	0.62
90	●	48 Blue	92	37.6	0.43	0.49
	●	57 Yellow	94	46.2	0.50	0.58
	●	63 Orange	103	51.1	0.46	0.54
	●	66 Green	101	57.1	0.54	0.62
100	●	48 Blue	96	39.3	0.41	0.47
	●	57 Yellow	98	48.7	0.49	0.56
	●	63 Orange	107	54.5	0.46	0.53
	●	66 Green	107	59.4	0.50	0.58
110	●	48 Blue	97	42.0	0.43	0.50
	●	57 Yellow	101	52.0	0.49	0.57
	●	63 Orange	109	58.2	0.47	0.54
	●	66 Green	108	64.2	0.53	0.61
120 (Fully Open)	●	48 Blue	99	43.8	0.43	0.50
	●	57 Yellow	105	53.6	0.47	0.54
	●	63 Orange	110	61.9	0.49	0.57
	●	66 Green	114	65.3	0.48	0.56

Proper operation requires base pressure to be a minimum of 15 psi (1,03 bar) higher than regulation pressure.

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

115-E PC Performance - Dual Spreader™ Nozzles METRIC

Regulated Pressure - bar		Nozzle	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
4,8	●	48 Blue	25,9	7,30	121,49	11	13
	●	57 Yellow	26,5	8,90	148,74	13	15
	●	63 Orange	-	-	-	-	-
	●	66 Green	-	-	-	-	-
5,0	●	48 Blue	26,4	7,50	124,93	11	12
	●	57 Yellow	27,0	9,10	152,28	13	14
	●	63 Orange	-	-	-	-	-
	●	66 Green	-	-	-	-	-
5,5	●	48 Blue	27,7	8,10	134,82	11	12
	●	57 Yellow	28,3	9,80	162,44	12	14
	●	63 Orange	30,5	11,00	184,20	12	14
	●	66 Green	29,6	11,90	198,60	14	16
6,0	●	48 Blue	28,0	8,40	140,17	11	12
	●	57 Yellow	28,6	10,30	171,26	13	15
	●	63 Orange	31,1	11,40	190,60	12	14
	●	66 Green	30,4	12,70	210,95	14	16
6,5	●	48 Blue	28,6	8,70	145,07	11	12
	●	57 Yellow	29,2	10,70	178,91	13	15
	●	63 Orange	31,9	11,90	198,92	12	14
	●	66 Green	31,6	13,20	219,84	13	15
7,0	●	48 Blue	29,3	9,00	150,31	11	12
	●	57 Yellow	30,0	11,20	186,24	12	14
	●	63 Orange	32,7	12,50	208,42	12	13
	●	66 Green	32,7	13,70	227,61	13	15
7,5	●	48 Blue	29,5	9,50	157,73	11	13
	●	57 Yellow	30,7	11,70	195,30	12	14
	●	63 Orange	33,1	13,10	218,58	12	14
	●	66 Green	32,9	14,40	240,79	13	15
8,0	●	48 Blue	29,9	9,80	163,08	11	13
	●	57 Yellow	31,5	12,00	200,47	12	14
	●	63 Orange	33,4	13,70	236,51	12	14
	●	66 Green	34,0	14,70	245,50	13	15
8,3 (Fully Open)	●	48 Blue	30,2	9,90	165,77	11	13
	●	57 Yellow	32,0	12,20	202,87	12	14
	●	63 Orange	33,5	14,10	247,15	13	14
	●	66 Green	34,7	14,80	247,15	12	14

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

2045A Maxi-Paw™

Dirty water applications - spacing up to 45 feet (13,7 m).

- Flexibility – Straight-through flow for dirty water applications.
- Reliability – Proven impact drive.
- Performance – Five interchangeable, color-coded MPR nozzles.

Features

- Two interchangeable low-angle (LA) nozzles (optional).
- No tools required to change nozzles.
- Heavy-duty plastic case with sturdy, reinforced ribbed design.
- Double-weighted arm for slower rotation and increased distance of throw.
- Self-flushing inner trip with improved inner trip lever.
- Powerful reverse action.
- Adjustable arm spring for low-pressure and low-gallonage operation.
- Energy efficient, low-pressure and low-gallonage operation.
- Full-circle or adjustable arc 20° to 340°.
- Precision Jet Tube (PJ™).
- Hooded bearing.
- Distance controller diffuser pin.
- Multi-function, pressure-activated wiper seal.
- FP trip for full- or part-circle operation.
- Inlet filter screen.
- Combination ½" (15/21) or ¾" (20/27) bottom inlet.
- Serviceable through the top of the case.

Options

- Optional internal Seal-A-Matic™ (SAM) prevents puddling and erosion caused by low head drainage and saves water (hold back 10' (3,1 m) or head)
- New optional non-potable cover for easy identification of reclaimed water

How To Specify

2045A- SAM-10- LA

- ***Optional Feature*** *Low Angle Nozzle*
- ***Nozzle Size*** *10*
- ***Optional Feature*** *SAM*
- ***Model*** *2045A Maxi-Paw*

Operating Range

- Precipitation Rate: 0.23 to 1.05 inches per hour (5,8 to 26,6 mm/h)
- Spacing: 22 to 45 feet (6,7 to 13,7 m)
- Flow rate: 1.5 to 8.4 GPM (0,36 to 1,86 m^3/h; 0,6 to 31,2 l/m)
- Radius: 22 to 45 feet (6,7 to 13,7 m)
- Pressure: 25 to 60 psi (2,0 to 4,5 bars)

Specifications

- Combination ½" (15/21) or ¾" (20/27) female bottom inlet
- ½" (15/21) female side inlet
- Nozzles: 06-red; 07-black; 08-blue; 10-yellow; 12-beige
- LA nozzles: 07LA-black; 10LA-yellow (optional)
- Nozzle outlet trajectory is 23°.
- LA nozzle outlet trajectory is 11°.
- Side inlet installation is not recommended in freezing climates.

Dimensions

- Overall height: 9 3⁄10" (23,6 cm)
- Top diameter: 5" (12,7 cm)

Models

- 2045A Maxi-Paw
- 2045A Maxi-Paw-SAM
- 2045A Maxi-Paw-SAM-NP

Available Nozzles

- Standard trajectory
  - 06, 07, 08, 10, 12
- Low angle
  - 07LA, 10LA

● 2045A Maxi-Paw

Maxi-Paw™ / Maxi-Paw SAM Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
25	06	-	-	-	-
	07 LA	22	1.5	0.60	0.69
	07	32	2.2	0.41	0.48
	08	35	2.8	0.44	0.51
	10 LA	25	3.4	1.05	1.21
	10	38	4.2	0.56	0.65
	12	39	5.5	0.70	0.80
35	06	37	2.0	0.28	0.32
	07 LA	23	1.9	0.69	0.80
	07	37	2.7	0.38	0.44
	08	38	3.3	0.44	0.51
	10 LA	29	4.0	0.92	1.06
	10	41	4.8	0.55	0.64
	12	42	6.3	0.69	0.79
45	06	38	2.3	0.31	0.35
	07 LA	25	2.1	0.65	0.75
	07	39	3.0	0.38	0.44
	08	40	3.7	0.45	0.51
	10 LA	31	4.5	0.90	1.04
	10	42	5.4	0.59	0.68
	12	44	7.1	0.71	0.82
55	06	38	2.5	0.33	0.39
	07 LA	25	2.3	0.71	0.82
	07	41	3.3	0.38	0.44
	08	41	4.1	0.47	0.54
	10 LA	32	5.0	0.94	1.09
	10	43	6.0	0.62	0.72
	12	45	7.9	0.75	0.87
60	06	38	2.6	0.35	0.40
	07 LA	25	2.4	0.74	0.85
	07	41	3.5	0.40	0.46
	08	42	4.2	0.46	0.53
	10 LA	32	5.4	1.02	1.17
	10	44	6.4	0.64	0.74
	12	45	8.4	0.80	0.92

Maxi-Paw™ / Maxi-Paw SAM Performance METRIC

Pressure bars	Nozzle	Radius m	Flow m^3/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
2,0	6	-	-	-	-	-
	07 LA	6,8	0,38	6,0	16	19
	7	10,4	0,55	9,0	10	12
	8	11,0	0,68	11,4	11	13
	10 LA	8,1	0,83	13,8	25	29
	10	11,9	1,01	16,8	14	16
	12	12,3	1,32	22,2	18	20
2,5	6	11,3	0,46	7,8	7	8
	07 LA	7,1	0,44	7,2	17	20
	7	11,4	0,62	10,2	10	11
	8	11,7	0,76	12,6	11	13
	10 LA	8,9	0,92	15,6	23	27
	10	12,5	1,11	18,6	14	16
	12	12,9	1,45	24,0	18	20
3,0	6	11,5	0,51	8,4	8	9
	07 LA	7,5	0,47	7,8	17	19
	7	11,8	0,67	11,4	10	11
	8	12,1	0,83	13,8	11	13
	10 LA	9,4	1,01	16,8	23	27
	10	12,8	1,21	20,4	15	17
	12	13,3	1,59	26,4	18	21
3,5	6	11,6	0,55	9,0	8	9
	07 LA	7,6	0,50	8,4	17	20
	7	12,2	0,72	12,0	10	11
	8	12,4	0,89	15,0	12	13
	10 LA	9,6	1,09	18,0	23	27
	10	13,0	1,30	21,6	15	18
	12	13,6	1,72	28,8	19	21
4,0	6	11,6	0,58	9,6	9	10
	07 LA	7,6	0,54	9,0	18	21
	7	12,5	0,78	13,2	10	11
	8	12,7	0,94	15,6	12	14
	10 LA	9,8	1,19	19,8	25	29
	10	13,3	1,42	23,4	16	19
	12	13,7	1,86	31,2	20	23

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Performance data collected in zero wind conditions.

● 2045A Maxi-Paw Nozzles

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

● **TSJ-12075, TSJ-12, TSJ-12SPGT, TSJ-12150, TSJ-18SPGT, TSJ-18**

TSJ Series

Swing Joints

- Double O-ring seals keep water in and dirt out, ensuring joints are kept clean and can be repositioned more easily.
- All Rain Bird swing joints feature superior flow characteristics through an innovative swept elbow design that reduces pressure losses by over 50% compared to other swing joint designs.
- Patented pressure relief vent allows trapped water to escape from the joint threads, preventing O-ring damage or extrusion.

Features

- High operating pressure rating (315 psi) is perfect for use in constant pressure situations.
- Excellent structural integrity from the swept elbow design reduces the costs associated with fatigue-related failures.
- Oversized threaded inlets and large visible stops make hand-tightening simple.
- Spigot inlet available on 1" swing joints.

Operating Range

- Pressure Rating: 315 psi (21,7 bars) @ 73° F (22,8° C)
- ¾" TSJ pressure loss: 0.3 psi (0,02 bar) at 6 GPM (24 l/m)
- 1" TSJ pressure loss: 1.5 psi (0,1 bar) at 18 GPM (66 l/m); 2.5 psi (0,2 bar) at 23 GPM (90 l/m)
- 1 ½" TSJ pressure loss: 0.5 psi (0,03 bar) at 40 GPM (150 l/m); 1.6 psi (0,1 bar) at 70 GPM

Models

- TSJ-12075: 12" (30,5 cm) long, ¾" (20/27) M x M NPT swing joint
- TSJ-12: 12" (30,5 cm) long, 1" (26/34) M x M NPT swing joint
- TSJ-12SPGT: 12" (30,5 cm) long, 1" (2,5 cm) spigot x 1" (26/34) M NPT swing joint
- TSJ-12150: 12" (31 cm) long, 1 ½" (40/49) M x M NPT swing joint
- TSJ-18: 18" (45,7 cm) long, 1" (26/34) M x M NPT swing joint

BSP version of TSJ-12 available

TSJ-PRS Series

Pressure Regulating Swing Joints

- Maintains a constant, uniform pressure into the rotor regardless of nozzle used.
- Saves water by reducing misting, fogging, and other performance problems caused by high pressure.
- All the great features of the Rain Bird Turf Swing Joint combined with a pressure regulating outlet elbow.

● **TSJ-075-PRS, TSJ-100-PRS**

Features

- Regulation pressures are preset to a nominal value for each TSJ-PRS:
  - 45 psi (3,1 bars) for ¾" swing joint
  - 70 psi (4,8 bars) for 1" swing joint
- Allows each rotor on a zone to operate at the same pressure, improving consistency and overall system performance.
- Installs quickly and easily, like all Rain Bird turf swing joints.

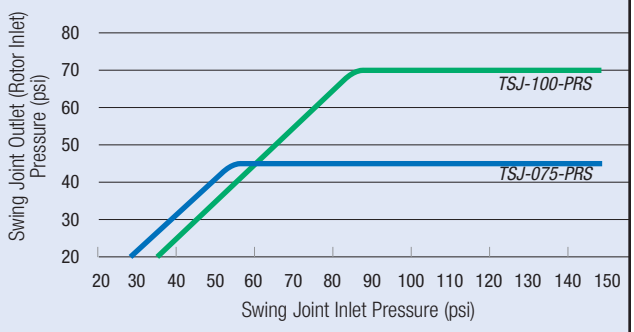
Specifications

- ¾" TSJ-PRS nominal pressure setting: 45 psi (3,1 bars).
- 1" TSJ-PRS nominal pressure setting: 70 psi (4,8 bars).
- Maximum flow: 22 GPM (84 l/m).
- Pressure rating: 315 psi (21,7 bars) at 73° F (22,8° C)

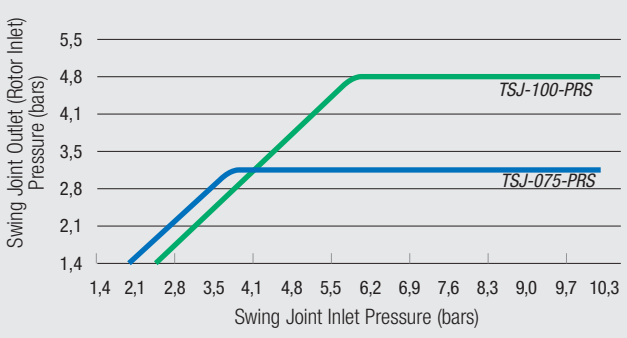
Models

- TSJ-075-PRS: ¾" swing joint with 45 psi pressure regulator, 12" (30,5 cm) long, ¾" (20/27) M x M NPT inlet and outlet
- TSJ-100-PRS: 1" swing joint with 70 psi pressure regulator, 12" (30,5 cm) long, 1" (26/34) M x M NPT inlet and outlet

TSJ-PRS Pressure Regulation



TSJ-PRS Pressure Regulation METRIC



Holdup Tool with Bubble Level

Features

- Combination holdup tool/bubble level makes proper installation easier.
- Works with 5000, 5500, Falcon® 6504, 7005 and 8005.

● HOLDUPTOOL

ROTORTOOL

Features

- Flat blade screwdriver and pull-up tool all in one.

Model

- ROTORTOOL

● ROTORTOOL

Maxi-Paw® Wrench

- For removing internal assembly from case.

Model

- 42064

● 42064

Snap-ring Pliers

- Used to remove snap rings from inside the case of the 115-E rotor.

Model

- SR-700

● SR-700

Selector Valve Key

- Used to manually operate and service electric 115-E rotors.

Model

- EGL-SVK

● EGL-SVK

Valve Insertion Tool and Installation Socket

- Used to insert the valve assembly, top-serviceable rock screen and replaceable valve seat in all 115-E rotor valve-in-head models.

Models

- VTDR
- IS-TSRS

● VTDR and IS-TSRS

Right Choice in 3500 Rotors Sales Brochure

Features

- Used by contractors when recommending 3500 Series Rotors to homeowners.
- Photos and features to educate prospective customers.
- Size is 8 ½" wide and 11" high.
- 3-hole punched; Packs of 50.
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814.
- Reference no. D39429A.

Right Choice in 5000 Rotors Sales Brochure

Features

- Used by contractors when recommending 5000 Series Rotors to homeowners.
- Photos and features to educate prospective customers.
- Size is 8 ½" wide and 11" high.
- 3-hole punched; Packs of 50.
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814.
- Reference no. D39428D.

Right Choice in 5000 Plus Rotors Sales Brochure

Features

- Used by contractors when recommending 5000 Plus Series Rotors to homeowners.
- Size is 8 ½" wide and 11" high.
- 3-hole punched; Packs of 50.
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814.
- Reference no. D39450A.

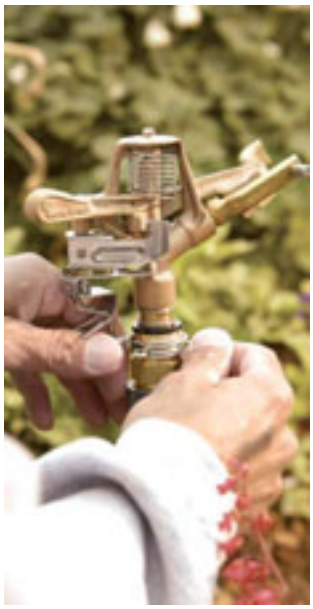
Online Water-Savings Calculators

Rain Bird has several online calculators available that will help you show your customers the potential water savings of using water-efficient Rain Bird rotors and nozzles:

- 5000/5000Plus PRS Rotors
- 5000/5000Plus MPR Rotor Nozzles
- TSJ-PRS Swing Joints

Availability

www.rainbird.com/calculators



Building on an industry-first foundation.

On December 18, 1933, a request was filed for a patent on a device described as a *spring-activated horizontal impact arm-driven sprinkler.* Once granted, Rain Bird was up and running with the industry's first impact sprinkler. Decades later, Rain Bird continues to make history with impact sprinklers that reliably and durably elevate the standard for efficient water management.

Install Confidence®
Install Rain Bird® Impacts.

Major Products

Primary Applications	2045-PJ Maxi-Bird	20BP-ADJ	25BPJ-ADJ	35A-TNT	65PJADJ-TNT
Slopes	●	●	●	●	●
Ground Cover/Shrubs	●	●	●	●	●
Low Pressure Systems	●	●	●		
High Wind Areas	●	●	●		
Effluent Water	●	●	●	●	●

2045-PJ Maxi-Bird™

½" (15/21) riser-mounted impact head used for slope and large-area, above-grade applications.

- Flexibility – Straight-through flow for superior performance in dirty water.
- Reliability – Proven Impact Drive
- Performance – 5 Matched Precipitation Rate (MPR) nozzles and 2 low-angle (LA) nozzles

Features

- Double-weighted arm for slower rotation and increased distance of throw.
- Adjustable arm spring for low-pressure and low-gallonage operation.
- Precision Jet tube (PJ™) minimizes side splash.
- Interchangeable, color-coded bayonet mount nozzles
- No tools required to change nozzles.
- FP trip permits full- or part-circle operation (20° to 340°)
- Powerful reverse action.

Operating Range

- Pressure: 25 to 60 psi (1,7 to 4,1 bars)
- Flow: 1.5 to 8.4 GPM (0,34 to 1,91 m³/h; 5,4 to 31,8 l/m)
- Radius: 22 to 45 feet (6,7 to 13,7 m)
- Precipitation Rate: 0.28 to 1.21 inches per hour (7 to 31 mm/h)

Specifications

- ½" (15/21) male threaded inlet nozzles
- Nozzle outlet trajectory:
  23° for 06, 07, 08, 10, and 12 nozzles.
- 11° for 07 LA and 10 LA
- Standard trajectory angle nozzles: 06-red; 07-black; 08-blue; 10-yellow; 12-beige
- Low angle (LA) nozzles: 07 LA-black; 10 LA-yellow (optional)

Model

- 2045-PJ-08 Maxi-Bird

● 2045-PJ-08 Maxi-Bird

● 2045-PJ-08 Nozzles

2045-PJ-08 Maxi-Bird Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
25	06	-	-	-	-
	07 LA	22	1.5	0.60	0.69
	07	32	2.2	0.41	0.48
	08 *	35	2.8	0.44	0.51
	10 LA	25	3.4	1.05	1.21
	10	38	4.2	0.56	0.65
	12	39	5.5	0.70	0.80
35	06	37	2.0	0.28	0.32
	07 LA	23	1.9	0.69	0.80
	07	37	2.7	0.38	0.44
	08 *	38	3.3	0.44	0.51
	10 LA	29	4.0	0.92	1.06
	10	41	4.8	0.55	0.64
	12	42	6.3	0.69	0.79
45	06	38	2.3	0.31	0.35
	07 LA	25	2.1	0.65	0.75
	07	39	3.0	0.38	0.44
	08 *	40	3.7	0.45	0.51
	10 LA	31	4.5	0.90	1.04
	10	42	5.4	0.59	0.68
	12	44	7.1	0.71	0.82
55	06	38	2.5	0.33	0.39
	07 LA	25	2.3	0.71	0.82
	07	41	3.3	0.38	0.44
	08 *	41	4.1	0.47	0.54
	10 LA	32	5.0	0.94	1.09
	10	43	6.0	0.62	0.72
	12	45	7.9	0.75	0.87
60	06	38	2.6	0.35	0.40
	07 LA	25	2.4	0.74	0.85
	07	41	3.5	0.40	0.46
	08 *	42	4.2	0.46	0.53
	10 LA	32	5.4	1.02	1.17
	10	44	6.4	0.64	0.74
	12	45	8.4	0.80	0.92

2045-PJ-08 Maxi-Bird Performance METRIC

Pressure bars	Nozzle	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
2,0	6	-	-	-	-	-
	07 LA	6,8	0,38	6,0	16	19
	7	10,4	0,55	9,0	10	12
	8	11,0	0,68	11,4	11	13
	10 LA	8,1	0,83	13,8	25	29
	10	11,9	1,01	16,8	14	16
	12	12,3	1,32	22,2	18	20
2,5	6	11,3	0,46	7,8	7	8
	07 LA	7,1	0,44	7,2	17	20
	7	11,4	0,62	10,2	10	11
	8	11,7	0,76	12,6	11	13
	10 LA	8,9	0,92	15,6	23	27
	10	12,5	1,11	18,6	14	16
	12	12,9	1,45	24,0	18	20
3,0	6	11,5	0,51	8,4	8	9
	07 LA	7,5	0,47	7,8	17	19
	7	11,8	0,67	11,4	10	11
	8	12,1	0,83	13,8	11	13
	10 LA	9,4	1,01	16,8	23	27
	10	12,8	1,21	20,4	15	17
	12	13,3	1,59	26,4	18	21
3,5	6	11,6	0,55	9,0	8	9
	07 LA	7,6	0,50	8,4	17	20
	7	12,2	0,72	12,0	10	11
	8	12,4	0,89	15,0	12	13
	10 LA	9,6	1,09	18,0	23	27
	10	13,0	1,30	21,6	15	18
	12	13,6	1,72	28,8	19	21
4,0	6	11,6	0,58	9,6	9	10
	07 LA	7,6	0,54	9,0	18	21
	7	12,5	0,78	13,2	10	11
	8	12,7	0,94	15,6	12	14
	10 LA	9,8	1,19	19,8	25	29
	10	13,3	1,42	23,4	16	19
	12	13,7	1,86	31,2	20	23

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

* *Standard Nozzle Size*

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

20B-ADJ

½" (15/21) riser-mounted impact head used for slope or non-turf-area applications.

- Flexibility – Straight-through flow for superior performance in dirty water.
- Reliability – Proven impact drive.
- Durability – Rugged brass construction.

Features

- Distance-control diffuser pin allows up to 25% radius reduction without changing nozzles.

Operating Range

- Precipitation Rate: 0.16 to 0.39 inches per hour (4 to 10 mm/h)
- Radius: 38 to 41 feet (11,6 to 12,5 m)
- Pressure: 30 to 70 psi (2,1 to 4,8 bars)
- Flow: 2.4 to 5.9 GPM (0,54 to 1,34 m³/h; 9,0 to 22,2 l/m)

Specifications

- ½" (15/21) male threaded inlet.
- For 10 nozzle at normal operating pressure, the highest point of stream is 7 feet (2,1 m) above nozzle.
- Nozzles: 08, 09, 10

Model

- 20B-ADJ

● 20B-ADJ

20B-ADJ Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
30	08	38	2.4	0.16	0.18
	09	39	3.1	0.20	0.23
	10 *	39	3.8	0.24	0.28
40	08	39	2.9	0.18	0.21
	09	40	3.6	0.22	0.25
	10 *	40	4.4	0.26	0.31
50	08	40	3.2	0.19	0.22
	09	41	4.0	0.23	0.26
	10 *	41	5.0	0.29	0.33
60	08	40	3.6	0.22	0.25
	09	41	4.4	0.25	0.29
	10 *	41	5.5	0.32	0.36
70	08	40	3.9	0.23	0.27
	09	41	4.8	0.27	0.32
	10 *	41	5.9	0.34	0.39

20B-ADJ Performance METRIC

Pressure bars	Nozzle	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
2,1	8	11,6	0,54	9,0	4	5
	9	11,9	0,70	12,0	5	6
	10 *	11,9	0,86	14,4	6	7
2,5	8	11,8	0,61	10,2	4	5
	9	12,1	0,77	12,6	5	6
	10 *	12,1	0,95	15,6	6	7
3,0	8	11,9	0,67	11,4	5	5
	9	12,2	0,84	13,8	6	7
	10 *	12,2	1,04	17,4	7	8
3,5	8	12,0	0,73	12,0	5	6
	9	12,3	0,91	15,0	6	7
	10 *	12,3	1,13	18,6	7	9
4,0	8	12,1	0,79	13,2	5	6
	9	12,4	0,98	16,2	6	7
	10 *	12,4	1,21	20,4	8	9
4,5	8	12,2	0,85	14,4	6	7
	9	12,5	1,05	17,4	7	8
	10 *	12,5	1,30	21,6	8	10
4,8	8	12,2	0,89	15,0	6	7
	9	12,5	1,09	18,0	7	8
	10 *	12,5	1,34	22,2	9	10

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

* *Standard Nozzle Size*

Optimum water distribution achieved at 40 to 50 psi (2,8 to 3,5 bars).

Performance data collected in zero wind conditions.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

25BPJ-ADJ Series

½" (15/21) riser-mounted impact head used for slope or large, non-turf-area applications.

- Flexibility – Straight-through flow for superior performance in dirty water.
- Reliability – Proven impact drive.
- Durability – Rugged brass, bronze, and stainless steel construction. Bronze body and arm, stainless steel trip assembly, brass bearing sleeve and nipple. Stainless steel fulcrum pin, arm spring, trip spring and friction collars.

Features

- FP trip allows full- or part-circle operation. Adjustable from 20° to 340°.
- Die-cast Precision Jet tube (PJ™) minimizes side splash.

Operating Range

- Precipitation Rate: 0.41 to 0.66 inches per hour (10 to 17 mm/h)
- Radius: 38 to 41 feet (11,6 to 12,5 m)
- Pressure: 30 to 50 psi (2,1 to 3,5 bars)
- Flow: 3.1 to 5.0 GPM (0,70 to 1,14 m³/h; 12,0 to 19,2 l/m)

Specifications

- ½" (15/21) male threaded inlet
- Nozzle outlet trajectory: 25°
- Nozzles: 09, 10

Models

- 25BPJ-FP-ADJ
- 25BPJ-FP-ADJ-DA
- 25BPJ-FP-ADJ-DA-TNT
- 25BPJ Special

How To Specify

25BPJ-ADJ- 09

Nozzle
09

Model
25BPJ-FP-ADJ

25BPJ-ADJ Series Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
30	09	38	3.1	0.41	0.48
	10 *	39	3.8	0.48	0.56
40	09	39	3.6	0.46	0.53
	10 *	40	4.4	0.53	0.61
50	09	40	4.0	0.48	0.56
	10 *	41	5.0	0.57	0.66

20B-ADJ Performance — METRIC

Pressure bars	Nozzle	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
2,1	9	11,6	0,70	12,0	10	12
	10 *	11,9	0,86	14,4	12	14
2,5	9	11,8	0,77	12,6	11	13
	10 *	12,1	0,95	15,6	13	15
3,0	9	12,0	0,85	13,8	12	14
	10 *	12,3	1,05	17,4	14	16
3,5	9	12,2	0,91	15,0	12	14
	10 *	12,5	1,14	19,2	15	17

Precipitation Rates based on half-circle operation.
■ *Square spacing based on 50% diameter of throw.*
▲ *Triangular spacing based on 50% diameter of throw.*
* *Standard Nozzle Size*
Optimum water distribution achieved at 40 to 50 psi (2,8 to 3,5 bars).
Performance data collected in zero wind conditions.

● 25BPJ-FP-ADJ

Brass nozzle with bridge-mounted stainless steel diffuser pin and non-clog, barrel-type vane. Diffuser pin allows up to 25% radius reduction without changing nozzles.

● 25BPJ-FP-ADJ-DA

Same as model 25BPJ-FP-ADJ, with bridge-mounted DA distance control flap.

● 25BPJ-ADJ-DA-TNT

Same as model 25BPJ-FP-ADJ-DA, with longer wearing TNT bearing.

● 25BPJ Special

Same as model 25 BPJ-FP-ADJ-DA-TNT, with tamper-resistant friction collars and fixed trip for part-circle operation only.

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

35A-TNT Series

¾" (20/27) riser-mounted impact head used for slope or large, non-turf applications.

- Flexibility – Straight-through flow for superior performance in dirty water.
- Reliability – Proven impact drive.
- Durability – Rugged brass and stainless steel construction.

Features

- Long-wearing TNT bearing.
- FP trip allows full- or part-circle operation. Adjustable from 20° to 340°.
- Precision Jet tube (PJ™) minimizes side splash.
- Stainless steel distance control diffuser pin and DA distance control flap allow up to 25% radius reduction without changing nozzles.

Operating Range

- Precipitation Rate: 0.43 to 0.67 inches per hour (11 to 17 mm/h)
- Radius: 42 to 51 feet (12,8 to 15,6 m)
- Pressure: 30 to 60 psi (2,1 to 4,1 bars)
- Flow: 3.9 to 7.8 GPM (0,89 to 1,77 m³/h; 15,0 to 29,4 l/m)

Specifications

- ¾" (20/27) male threaded inlet
- Nozzle outlet trajectory: 27°

Models

- 35A-TNT
- 35A-ADJ-TNT
- 35A-PJDA-TNT
- 35A-PJADJ-TNT

35A-TNT

¾" (20/27) male bearing. TNT bearing only. Cast brass body and arm. Brass bearing sleeve and nipple. Stainless steel arm spring, trip spring, and trip collars. Stainless steel trip can be set for full- or part-circle operation.

35A-PJDA-TNT

Same as model 35A-TNT, with Precision Jet tube (PJ™) and distance control flap (DA).

35A-ADJ-TNT

Same as model 35A-TNT with distance control diffuser pin (ADJ).

35A-TNT Series Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
30	10	42	3.9	0.43	0.49
	11	43	4.6	0.48	0.55
	12 *	44	5.5	0.55	0.63
40	10	44	4.5	0.45	0.52
	11	45	5.4	0.51	0.59
	12 *	47	6.4	0.56	0.64
50	10	45	5.0	0.48	0.55
	11	47	6.0	0.52	0.60
	12 *	49	7.2	0.58	0.67
60	10	46	5.4	0.49	0.57
	11	48	6.6	0.55	0.64
	12 *	51	7.8	0.58	0.67

35A-TNT Series Performance — METRIC

Pressure bars	Nozzle	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
2,1	10	12,8	0,89	15,0	11	12
	11	13,1	1,04	17,4	12	14
	12 *	13,4	1,25	21,0	14	16
2,5	10	13,1	0,97	16,2	11	13
	11	13,5	1,15	19,2	13	15
	12 *	13,9	1,37	22,8	14	16
3,0	10	13,4	1,05	17,4	12	13
	11	13,9	1,26	21,0	13	15
	12 *	14,5	1,50	25,2	14	17
3,5	10	13,7	1,13	18,6	12	14
	11	14,3	1,37	22,8	13	16
	12 *	15,0	1,63	27,0	15	17
4,0	10	14,0	1,21	20,4	12	14
	11	14,6	1,48	24,6	14	16
	12 *	15,5	1,75	29,4	15	17
4,1	10	14,0	1,23	20,4	12	14
	11	14,6	1,50	25,2	14	16
	12 *	15,6	1,77	29,4	15	17

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

Optimum water distribution achieved at 40 to 50 psi (2,8 to 3,5 bars).

* *Standard Nozzle Size*

Performance data collected in zero wind conditions.

35A-PJADJ-TNT

Same as model 35A-TNT, with Precision Jet tube (PJ™) and distance control diffuser pin (ADJ).

How To Specify

35A-PJADJ-TNT- 10

Nozzle
10

Model
35A-PJADJ-TNT

Performance data derived from tests that conform with ASAE Standards; ASAE S398.1. See page 6 for complete ASAE Test Certification Statement.

65PJADJ-TNT

1" (26/34) riser-mounted impact head used for slope or large, non-turf-area applications.

- Flexibility – Straight-through flow for superior performance in dirty water.
- Reliability – Proven impact drive.
- Durability – Rugged brass and stainless steel construction.

Features

- Long-wearing TNT bearing.
- FP trip allows full- or part-circle operation. Adjustable from 20° to 340°.
- Precision Jet tube (PJ™) minimizes side splash.
- Stainless steel distance control diffuser pin allows up to 25% radius reduction without changing nozzles.

Operating Range

- Precipitation Rate: 0.75 to 0.94 inches per hour (19 to 23 mm/h)
- Radius: 57 to 65 feet (17,4 to 19,8 m)
- Pressure: 50 to 80 psi (3,5 to 5,5 bars)
- Flow: 12.9 to 16.5 GPM (2,93 to 3,75 m³/h; 48,6 to 62,4 l/m)

Specifications

- 1" (26/34) female NPT or BSP threaded inlet.
- Nozzle outlet trajectory: 27°

Model

- 65PJADJ-TNT
- 65PJADJ-TNT-BSP: BSP model

65PJADJ-TNT Performance

Pressure psi	Nozzle	Radius ft.	Flow GPM	■ Precip In/h	▲ Precip In/h
50	16	57	12.9	0.76	0.88
60	16	58	14.2	0.81	0.94
70	16	63	15.4	0.75	0.86
80	16	65	16.5	0.75	0.87

65PJADJ-TNT Performance METRIC

Pressure bars	Nozzle	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h
3,5	16	17,4	2,93	48,6	19	22
4,0	16	17,9	3,16	52,8	20	23
4,5	16	18,5	3,35	55,8	19	23
5,0	16	19,2	3,55	59,4	19	22
5,5	16	19,8	3,75	62,4	19	22

Precipitation Rates based on half-circle operation.

■ *Square spacing based on 50% diameter of throw.*

▲ *Triangular spacing based on 50% diameter of throw.*

* *Standard Nozzle Size*

Optimum water distribution achieved at 40 to 50 psi (2,8 to 3,5 bars).

Performance data collected in zero wind conditions.

How To Specify

65PJADJ- TNT

Nozzle
16

Model
65PJADJ-TNT

● **65PJADJ-TBT**

Valves

Durable, reliable, built to last. The valves tough enough to stand behind your reputation.

Once underground, Rain Bird® valves get down to business. Durable plastic or rugged brass, Rain Bird valves are built to take on the toughest application challenges, even under the worst conditions. Low flow or high pressure, effluent water, grit, sand, you name it, Rain Bird has the valve to tame it. And to finish your professional installations, rely on Rain Bird's complete line of secure, easy-access valve boxes.

Install Confidence®
Install Rain Bird® Valves.

Major Products

	DV	DVF	JTV	JTVF	ASVF	PGA	PEB	PESB/ PESB-R	GB	EFB-CP	BPE	BPES	QC
Primary Applications													
Sizes	¾", 1"	1"	1"	1"	¾", 1"	1", 1½", 2"	1", 1½", 2"	1", 1½", 2"	1", 1¼", 1½", 2"	1", 1¼", 1½", 2"	3"	3"	¾", 1", 1½"
Flow (GPM)	0.2–22 (¾") 0.2–40 (1")	0.2–40	0.25–30	0.25–30	0.2–22 (¾") 0.2–40 (1")	2–150	0.25–200	0.25–200	5–200	5–200	60–300	60–300	10–125
(m^3/h)	0,05–5,0 (¾") 0,05–9,08 (1")	0,05–9,08	0,06–6,82	0,23–6,82	0,05–5,0 (¾") 0,05–9,08 (1")	0,45–34,05	0,06–45,40	0,06–45,40	1,14–45,40	1,14–45,40	13,62–68,10	13,62–68,10	3–28
(l/m)	0,76–83,3 (¾") 0,76–151,4 (1")	0,76–151,4	0,95–113,6	0,95–113,6	0,01–1,39 (¾") 0,01–2,52 (1")	7,8–568	1,2–757	1,2–757	19,2–757	19,2–757	227–1136	227–1136	37,8–473
Pressure (psi)	15–150	15–150	15–150	15–150	15–150	15–150	20–200	20–200	15–200	15–200	20–200	20–200	5–125
(bars)	1,03–10,34	1,03–10,34	1,03–10,34	1,03–10,3	1,03–10,34	1,03–10,34	1,38–13,80	1,38–13,80	1,04–13,80	1,04–13,80	1,38–13,80	1,38–13,80	0,4–8,6
Manual Bleed	I/E	I/E	I/E	I/E	I/E	I	I/E	I/E	I/E	I/E	E	E	
Flow Control		●		●	●	●	●	●	●	●	●	●	
Bottom Inlet	DV-A	DVF-A			●	●					●	●	●
Low Flow	●	●	●	●	●	●		●	●				
PRS-D Compatible						●	●	●	●	●	●	●	
Dirty Water								●		●		●	
Non-Potable Water						●	●	●	●	●	●	●	●
Sites Requiring Brass									●	●	●	●	●
Sites Requiring Plastic	●	●	●	●	●	●	●	●					
Decoder System Compatible						●	●	●	●	●	●	●	

• DV/DVF available in globe, angle, slip x slip, male x male and male x barb configurations.
• JTV/JTVF available in globe, slip x slip, male x male and male x barb configurations.
• Flows below 3 GPM (0,68 m^3/h; 0,19 l/s) install RBY filter upstream.
• The PESB-R is specifically designed with chlorine-resistant components for reclaimed water applications.
• I/E = Internal/External

DV Series

¾", 1" (20/27, 26/34)

- Double-filtered pilot-flow design for maximum reliability.
- Balanced-pressure diaphragm for long life.
- Energy-efficient, low-power encapsulated solenoid with captured plunger and 90 mesh (200 micron) solenoid filter.

Features

- External bleed to manually flush system of dirt and debris during installation and system start-up.
- Internal bleed for spray-free manual operation.
- Buna-N diaphragm with self-cleaning 90 mesh (200 micron) pilot water filter and captive spring.
- Operates in low-flow and Xerigation® applications when the RBY filter is installed upstream. An option for low flow (3 GPM; 0,68 m³/h; 11,4 l/m) applications is to use a LFV-100/075 Low Flow Valve (see page 230), or Drip Control Zone Kit (see pages 222-229).
- 1¼" (3,2 cm) stainless steel phillips head screws.
- Slip-by-slip configuration for low-cost, solvent-weld installations.
- Male by barb configuration for installation with poly pipe.
- Angle configuration for flexible installations especially when submains are deep.
- Accepts latching solenoid for use with Rain Bird battery-operated controllers.

Operating Range

- Pressure: 15 to 150 psi (1,03 to 10,34 bars)
- 075-DV Flow: 0.2 to 22 GPM (0,05 to 5,0 m³/h; 0,76 to 83,3 l/m). An option for low flow (3 GPM; 0,68 m³/h; 11,4 l/m) applications is to use a LFV-100/075 Low Flow Valve (see page 230), or Drip Control Zone Kit (see pages 222-229).
- 100-DV Flow: 0.2 to 40 GPM (0,05 to 9,08 m³/h; 0,76 to 151,4 l/m). An option for low flow (3 GPM; 0,68 m³/h; 11,4 l/m) applications is to use a LFV-100/075 Low Flow Valve (see page 230), or Drip Control Zone Kit (see pages 222-229).
- Water temperature: Up to 110° F (43° C)
- Ambient temperature: Up to 125° F (52° C)

Electrical Specifications

- 24 VAC 50/60 Hz (cycles/sec.) solenoid
- Inrush current: 0.30 A (7.2 VA) at 60 Hz
- Holding current: 0.19 A (4.6 VA) at 60 Hz
- Coil resistance: 42-55 Ohms

Dimensions

- Height: 4½" (11,4 cm)
- Height (Angle): 5½" (14 cm)
- Length: 4⅜" (11,1 cm)
  Length (Angle): 3¾" (9,5 cm)
  Length (MM): 5⅜" (13,6 cm)
  Length (MB): 5¾" (14,6 cm)
- Width: 3⅓" (8,4 cm)

Models

- 075-DV: ¾" (20/27)
- 100-DV: 1" (26/34)*
- 100-DV-SS: 1" (26/34)
- 100-DV-A: 1" (26/34)*
- 100-DV-MB: 1" (26/34)
- 125-DV-MB: 1" (26/34)M x 1¼" (33/42)B

** Available with BSP threads*

1: Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft./sec. (2,3 m/s) in order to reduce the effects of water hammer.

2: DV Series valves cannot be used with PRS pressure regulating modules.

● 100-DV-SS

● 100-DV-MB

● 100-DV-A

How To Specify

100 - DVF - MB

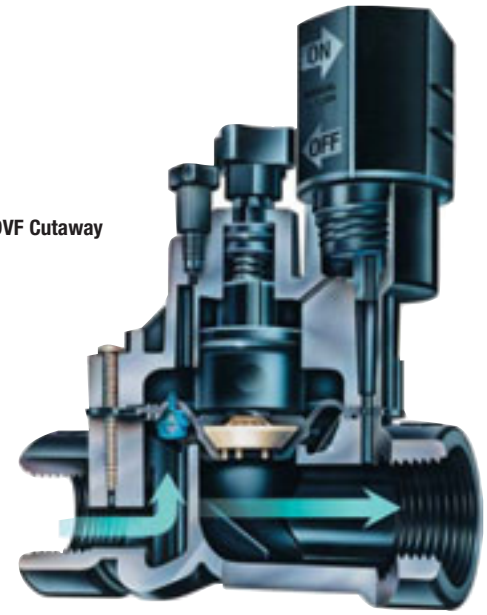
Optional Configuration:
MB- Male x Barb
MM- Male x Male
A- Angle
SS- Slip x Slip

F: Flow control

Model
DV: Remote Control Valve
ASV: Anti-siphon valve

Size
075: ¾" (20/27);
100: 1" (26/34)

This specifies a 100-DVF valve; 1" (26/34) male x barb with flow control. ***Note:*** *For non-U.S. applications it is necessary to specify NPT or BSP thread type (1" only).*



● DVF Cutaway

DVF Series

1" (26/34)

- Economical irrigation valve for residential and light commercial applications where flow control is required.
- Incorporates all features of DV Series valves, plus the following:
- Unique, easy-to-turn, patented pressure assisted flow control mechanism.

Operating Range

- Pressure: 15 to 150 psi (1,03 to 10,34 bars)
- 100-DVF Flow: 0.2 to 40 GPM (0,05 to 9,08 m³/h; 0,76 to 151,40 l/m). An option for low flow (3 GPM; 0,68 m³/h; 11,4 l/m) applications is to use a LFV-100/075 Low Flow Valve (see page 230), or Drip Control Zone Kit (see pages 222-229).
- Water temperature: up to 110° F (43° C)
- Ambient temperature: Up to 125° F (52° C)

Electrical Specifications

- 24 VAC 50/60 Hz (cycles/sec.) solenoid
- Inrush current: 0.30 A (7.2 VA) at 60 Hz
- Holding current: 0.19 A (4.6 VA) at 60 Hz
- Coil resistance: 42-55 Ohms

Dimensions

- Height: 5⅗" (14,2 cm)
- Height (Angle): 6⅛" (15.5 cm)
- Length: 4⅜" (11,1 cm)
  Length (Angle): 3¾" (9,5 cm)
  Length (MM): 5⅜" (13,6 cm)
  Length (MB): 5¾" (14,6 cm)
- Width: 3⅓" (8,4 cm)

Models

- 100-DVF: 1" (26/34)*
- 100-DVF-SS: 1" (26/34)
- 100-DVF-A: 1" (26/34)
- 100-DVF-MM: 1" (26/34)*
- 100-DVF-MB: 1" (26/34)

** Available with BSP threads.*

1: Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft./sec. (2,3 m/s) in order to reduce the effects of water hammer.
2: DVF Series valves cannot be used with PRS pressure regulating modules.

● 100-DVF-SS

● 100-DVF-MM

● 100-DVF-A

DV and DVF Valve Pressure Loss (psi)		
Flow GPM	075-DV ¾" psi	100-DV/100-DVF 1" psi
1	3.2	3.3
3	3.9	3.6
5	4.2	3.8
10	5.0	3.8
20	7.7	5.1
30	-	6.4
40	-	8.6

DV and DVF Valve Pressure Loss (bars) METRIC			
Flow m^3/h	l/m	075-DV ¾" bars	100-DV/100-DVF 1" bars
0,24	4	0,22	0,23
0,60	10	0,26	0,24
1,20	20	0,29	0,26
3,60	60	0,45	0,32
4,50	75	0,53	0,35
6,00	100	-	0,41
9,00	150	-	0,59

100-DV/DVF Angle, MxM, MxB Valve Pressure Loss (psi)			
Flow GPM	Angle 1" psi	Male x Barb 1" psi	Male x Male 1" psi
1	2.8	2.5	3.2
3	3.0	2.9	3.5
5	3.2	3.0	3.7
10	3.9	3.1	4.3
20	4.3	4.3	6.1
30	5.4	7.4	8.6
40	8.2	12.7	12.7

100-DV/DVF Angle, MxM, MxB Valve Pressure Loss (bars) METRIC				
Flow m^3/h	l/m	Angle 1" bars	Male x Barb 1" bars	Male x Male 1" bars
0,24	4	0,19	0,17	0,22
0,60	10	0,20	0,19	0,24
1,20	20	0,22	0,21	0,26
3,60	60	0,28	0,26	0,37
4,50	75	0,30	0,30	0,42
6,00	100	0,35	0,44	0,53
9,00	150	0,56	0,86	0,87

Note: *See Xerigation section for RBY Filter flow loss data.*

Note: *DV/DVF Male x Male and Male x Barb not recommended for flows exceeding 30 GPM (6,81 m^3/h, 113,4 l/m).*

ASVF Series

¾", 1" (20/27, 26/34)

- Combination reliable DVF valve and atmospheric vacuum breaker in one unit
- I.A.P.M.O. and A.S.S.E listing approved
- City of Los Angeles listing approved; Canadian Standards Association (CSA) listing approved

Features

- Incorporates all features of DV and DVF Series valves

Operating Range

- Pressure: 15 to 150 psi (1,03 to 10,34 bars)
- 075-ASVF Flow: 0.2 to 22 GPM (0,05 to 5,0 m³/h; 0,76 to 83,3 l/m). An option for low flow (3 GPM; 0,68 m³/h; 11,4 l/m) applications is to use a ASVF-LF075 Low Flow Anti-siphon Valve (see page 230), or Drip Control Zone Kit (see pages 222-229).
- 100-ASVF Flow: 0.2 to 40 GPM (0,05 to 9,08 m³/h; 0,76 to 151,4 l/m). An option for low flow (3 GPM; 0,68 m³/h; 11,4 l/m) applications is to use a ASVF-LF075 Low Flow Anti-siphon Valve (see page 230), or Drip Control Zone Kit (see pages 222-229).
- Water temperature: up to 110° F (43° C)
- Ambient temperature: Up to 125° F (52° C)

Specifications

- 24 VAC 50/60 Hz (cycles/sec.) solenoid
- Inrush current: 0.30 A (7.2 VA) at 60 Hz
- Holding current: 0.19 A (4.6 VA) at 60 Hz
- Coil resistance: 42-55 Ohms
- Anti-siphon must be installed at least 6" (15,2 cm) above the highest point of water in the pipe and sprinklers it serves.
- No valve can be located downstream of the anti-siphon valve.
- Anti-siphon valves must not be operated continuously for more than twelve (12) hours.
- Consult local codes.

Dimensions

- Height: 6¼" (15,8 cm)
- Length: 6⁹⁄₁₀" (15,5 cm)
- Width: 3⅕ " (8,1 cm)

Models

- 075-ASVF: ¾" (20/27)
- 100-ASVF: 1" (26/34)

Models available in NPT threads only.

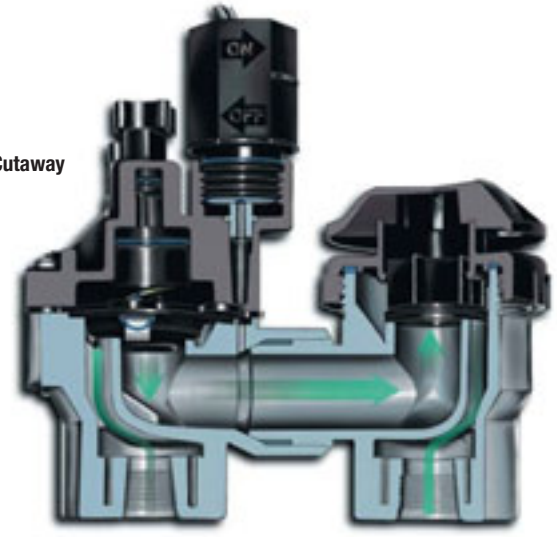
ASVF Valve Pressure Loss (psi)

Flow GPM	075-ASVF ¾" psi	100-ASVF 1" psi
1	2.8	2.9
3	3.4	3.1
5	3.8	3.3
10	4.6	3.9
20	6.5	5.0
30	-	7.8
40	-	13.4

ASVF Valve Pressure Loss (bars) METRIC

Flow m³/h	l/m	075-ASVF ¾" bars	100-ASVF 1" bars
0,23	3,8	0,19	0,20
0,6	10	0,23	0,21
1,2	20	0,26	0,23
3,6	60	0,39	0,31
4,5	75	0,45	0,34
6,0	100	-	0,47
9,0	150	-	0,91

* *See Xerigation section for RBY Filter flow loss data. Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft./sec. (2,3 m/s) in order to reduce the effects of water hammer.*



● ASVF Cutaway

● 100-ASVF

DV Union Series

1" (26/34)

- 1" Union-by-Union (UU) female union thread configuration for quick and easy manifolding
- 1" Union-by-Barb (UB) female union thread inlet by barb outlet configuration for quick and easy manifolding for poly pipe installations

Operating Range

- 100-DVF (union) Flow: 0.2 to 20 GPM (0,05 to 4,54 m³/h, 0,01 to 1,26 l/s). An option for low flow (3 GPM; 0,68 m³/h; 11,4 l/m) applications is to use a LFV-100/075 Low Flow Valve (see page 230), or Drip Control Zone Kit (see pages 222-229).

Electrical Specifications

- 24 VAC 50/60 Hz (cycles per second) solenoid power requirement
- 0.30 A (7.2 VA) inrush current
- 0.19 A (4.6 VA) holding current
- Solenoid coil resistance: 38 Ohms

Dimensions

- Height: 5⅜" (14,2 cm)
- Length: (UU) 5⅞" (14,9 cm) (UB) 6" (15,2 cm)
- Width: 3⅓" (8,4 cm)

Models

- 100-DVF-UU: 1" (26/34)*
- 100-DVF-UB: 1" (26/34)

**Available with BSP threads*

Union x Union and Union x Barb Valve Pressure Loss (psi)

Flow (GPM)	Union x Union 1" (psi)	Union x Barb 1" (psi)
1	2.3	2.0
3	2.9	2.3
5	3.1	2.9
10	3.9	3.7
20	7.5	6.6

Union x Union and Union x Barb Valve Pressure Loss (bars) METRIC

Flow (m³/h)	Union x Union 1" (bars)	Union x Barb 1" (bars)
0,23	0,16	0,14
0,68	0,20	0,16
1,14	0,21	0,20
2,27	0,27	0,26
4,54	0,52	0,46

DVF Union x Union and Union x Barb not recommended for flows exceeding 20 GPM (4,54 m³/h; 1,26 l/s).

● 100-DVF-UB

How To Specify

100 - DVF - MB

Optional Configuration:
UU: Union x Union
UB: Union x Barb

Model
DVF: Remote Control Valve, Flow

Size
100: 1" (26/34)

Note: For non-U.S. applications it is necessary to specify NPT or BSP thread type.

● 100-JTV

● 100-JTVF-MB

Jar Top Valve (JTV/JTVF) Series

Versatility, Value, Convenience
1" (26/34)

- Double-filtered pilot flow for maximum reliability
- Threaded bonnet provides easy removal with no screws
- Operates in low-flow and Xerigation® applications when the RBY filter is installed upstream. An option for low flow (3 GPM; 0,68 m³/h; 11,4 l/m) applications is to use a LFV-100/075 Low Flow Valve (see page 230), or Drip Control Zone Kit (see pages 222-229).

Features

Reliability

- Balanced-pressure diaphragm for long life
- Buna-N diaphragm with self-cleaning 90-mesh (200 micron) pilot water filter and stainless steel spring
- Energy efficient, low-power encapsulated solenoid with captured plunger

Versatility

- Accepts latching solenoid for use with Rain Bird battery-operated controllers
- Available in multiple fitting types
- External bleed to manually flush system of dirt and debris during installation and system start up
- Internal bleed for spray-free manual operation
- Available with optional flow control feature

Ease of Service

- Trouble-free service with few parts
- Drop-in diaphragm for effortless maintenance

How To Specify

100 - JTVF - SS

Optional Configuration:
SS: Slip x Slip
MM: Male x Male
MB: Male x Barb

Model
JTV: Jar Top Valve
JTVF: Jar Top Valve w/Flow Control

Size
100: 1" (26/34)

Note: For non-U.S. applications it is necessary to specify NPT or BSP thread type (1" only)

● 100-JTV-MM

Operating Range

- Pressure: 15 to 150 PSI (1,0 to 10,3 bar)
- Flow: 0.25 to 30 GPM (0,23 to 6,82 m^3/h; 0.95 to 113,6 l/m). An option for low flow (3 GPM; 0,68 m^3/h; 11,4 l/m) applications is to use a LFV-100/075 Low Flow Valve (see page 230), or Drip Control Zone Kit (see pages 222-229).
- Operating Temperatures: Water temperature up to 110° F (43° C); ambient temperature up to 125° F (52° C)

Electrical Specifications

- 24 VAC 50/60 Hz (cycles/sec.) solenoid
- Inrush current: 0.30 A (7.2 VA) at 60 Hz
- Holding current: 0.19 A (4.6 VA) at 60 Hz
- Coil resistance: 42-55 Ohms

Dimensions

- Height: 5" (12,7 cm)
- Length: 4" (10,2 cm)
- Length (MxM): 5.4" (13,7 cm)
- Length (MxB): 5.8" (14,7 cm)
- Width: 3⅛" (7,9 cm)

Models

- 100-JTV: 1" (26/34) female x female threaded*
- 100-JTV-SS: 1" (26/34) slip x slip
- 100-JTV-MM: 1" male x male*
- 100-JTV-MB: 1" male x barb
- 100-JTVF: 1" female x female with flow control*
- 100-JTVF-SS: 1" slip x slip with flow control
- 100-JTVF-MM: 1" male x male with flow control*
- 100-JTVF-MB: 1" male x barb with flow control

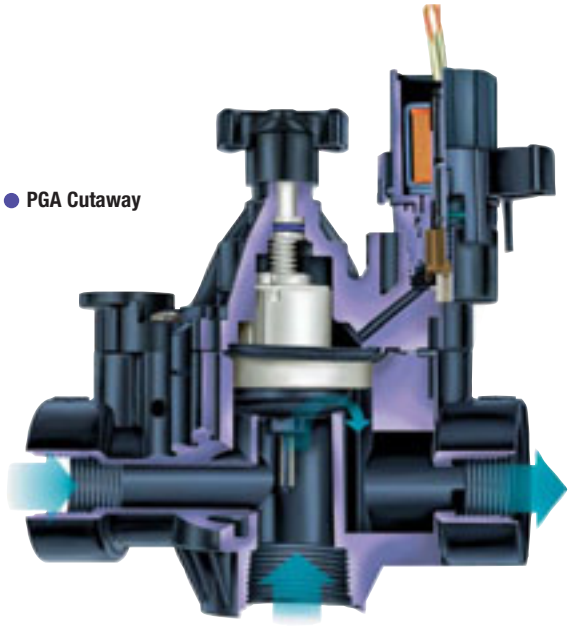
** BSP threads available; specify when ordering*

Jar Top Valve Pressure Loss (psi)

GPM	JTV/JTVF psi	Male x Barb psi	Male x Male psi
1	3.0	3.8	3.8
3	3.4	4.2	4.4
5	3.8	4.4	4.6
10	4.5	4.6	5.1
15	5.6	4.7	5.7
20	6.9	5.5	6.3
30	9.7	9.8	9.6

Jar Top Valve Pressure Loss (bars) METRIC

m^3/h	l/m	JTV/JTVF bar	Male x Barb bar	Male x Male bar
0,23	3,8	0,20	0,27	0,26
0,6	10	0,23	0,29	0,30
1,2	20	0,27	0,30	0,32
3,6	60	0,40	0,34	0,40
4,5	80	0,49	0,41	0,46
6,0	100	0,60	0,57	0,58
6,8	114	0,67	0,67	0,66



● PGA Cutaway

● 150-PGA-NP-HAN

PGA Series

1", 1½", 2" (26/34, 40/49, 50/60)

- Plastic globe/angle valve for residential/light commercial applications. The PGA Series offers versatility at an affordable price.
- Fabric-reinforced diaphragm for longer life.
- Rugged PVC construction for reliable operation.

Features

- Globe and angle configuration for flexibility in design and installation.
- Slow closing to prevent water hammer and subsequent system damage.
- One-piece solenoid with captured plunger and spring for easy servicing. Prevents loss of parts during field service.
- Non-rising flow control handle adjusts water flow as needed.
- Manual internal bleed operates the valve without allowing water into the valve box. Allows pressure regulator adjustment without turning on the valve at the controller.
- Double filtered pilot flow prevents clogging solenoid ports.
- Normally closed, forward flow design.
- Compatible with Rain Bird MDC Decoder System

Options (order separately)

- Accommodates field installed PRS-D pressure regulating module to ensure optimum sprinkler performance. Regulates up to 100 psi (6,90 bars).
- Purple flow control handles for easy identification of non-potable water systems.

  PGA-NP-HAN (1" and 1½")
  PGA-NP-HAN2 (2")
- Accepts latching solenoid for use with Rain Bird battery-operated controllers up to 150 psi (10,35 bars).

Operating Range

- Pressure: 15 to 150 psi (1,04 to 10,35 bars)
- PRS-D regulates up to 100 psi (6,90 bars)
- Flow: 2 to150 GPM (0,45 to 34,05 m^3/h; 7,8 to 568 l/m)
- Flow with PRS-D: 5 to 150 GPM (1,14 to 34,05 m^3/h; 19,2 to 568 l/m)
- Water temperature: up to 110° F (43° C) - refer to chart
- Ambient temperature: up to 125° F (52° C)

Electrical Specifications

- 24 VAC 50/60 Hz (cycles/sec.) solenoid
- Inrush current: 0.41 A (9.84 VA) at 60Hz
- Holding current: 0.28 A (6.72 VA) at 60Hz
- Coil resistance: 30-39 Ohms

How To Specify

100 - PGA - PRS-D

- ***Size*** *1½" (40/49)*
- ***Model*** *PGA*
- ***Optional Feature*** *PRS-D: pressure regulating module*

Note: Valve and PRS-D module must be ordered separately. For non-U.S. applications, it is necessary to specify NPT or BSP thread type.

Models

- 100-PGA 1" (26/34)
- 150-PGA 1½" (40/49)
- 200-PGA 2" (50/60)

BSP threads available; specify when ordering.

Dimensions

	Height	Length	Width
• 100-PGA	7¼" (18,4 cm)	5½" (14,0 cm)	3¼" (8,3 cm)
• 150-PGA	8" (20,3 cm)	6¾" (17,2 cm)	3½" (8,9 cm)
• 200-PGA:	10" (25,4 cm)	7¾" (23,5 cm)	5" (12,7 cm)

Note: *PRS-D adds 2" (5,1 cm) to valve height.*

Recommendations

1. Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft./sec. (2,29 m/s) in order to reduce the effects of water hammer.

2. For flows below 5 GPM (1,14 m³/h; 19,2 l/m), Rain Bird recommends use of upstream filtration to prevent debris from collecting below the diaphragm.

3. For flows below 10 GPM (2,27 m³/h; 37,8 l/m) Rain Bird recommends the flow control stem be turned down two full turns from the fully open position.

PGA Series Temperature Rating

Water Temperature	Continuous Pressure
73˚ F	150 psi
80˚ F	132 psi
90˚ F	112 psi
100˚ F	93 psi
110˚ F	75 psi

PGA Series Temperature Rating — METRIC

Water Temperature	Continuous Pressure
23˚ C	10,40 bars
27˚ C	9,10 bars
32˚ C	7,70 bars
38˚ C	6,40 bars
43˚ C	5,20 bars

PGA Series Valve Pressure Loss (psi)

Flow GPM	100-PGA Globe 1"	100-PGA Angle 1"	150-PGA Globe 1½"	150-PGA Angle 1½"	200-PGA Globe 2"	200-PGA Angle 2"
1	5.1	5.1	-	-	-	-
5	5.5	5.5	-	-	-	-
10	5.9	5.9	-	-	-	-
20	6.0	6.0	-	-	-	-
30	6.4	6.4	1.9	1.3	-	-
40	7.0	7.0	3.2	2.0	1.2	1.0
50	-	-	4.8	3.0	1.5	0.9
75	-	-	11.1	6.5	3.0	1.7
100	-	-	19.2	11.7	5.5	3.0
125	-	-	-	-	8.6	4.8
150	-	-	-	-	12.0	6.5

PGA Series Valve Pressure Loss (bars) — METRIC

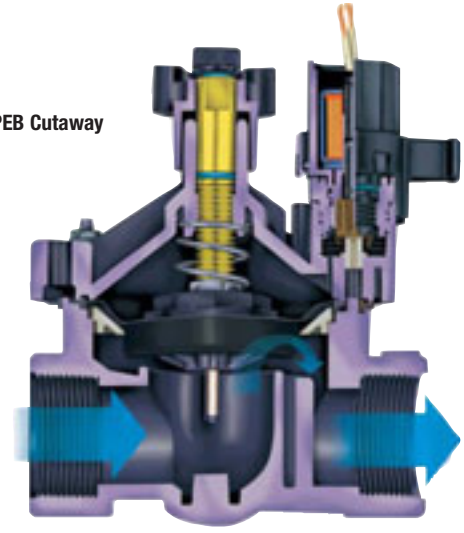
Flow m³/h	Flow l/m	100-PGA Globe 1"	100-PGA Angle 1"	150-PGA Globe 1½"	150-PGA Angle 1½"	200-PGA Globe 2"	200-PGA Angle 2"
0,23	3,8	0,35	0,35	-	-	-	-
0,6	10	0,36	0,36	-	-	-	-
1,2	20	0,38	0,38	-	-	-	-
3	50	0,41	0,41	-	-	-	-
6	100	0,43	0,43	0,10	0,07	-	-
9	150	0,48	0,48	0,22	0,14	0,08	0,07
12	200	-	-	0,38	0,23	0,12	0,07
15	250	-	-	0,61	0,36	0,17	0,10
18	300	-	-	0,86	0,51	0,24	0,13
21	350	-	-	1,16	0,70	0,33	0,18
24	400	-	-	-	-	0,43	0,23
27	450	-	-	-	-	0,54	0,30
30	500	-	-	-	-	0,66	0,36
34	568					0,83	0,45

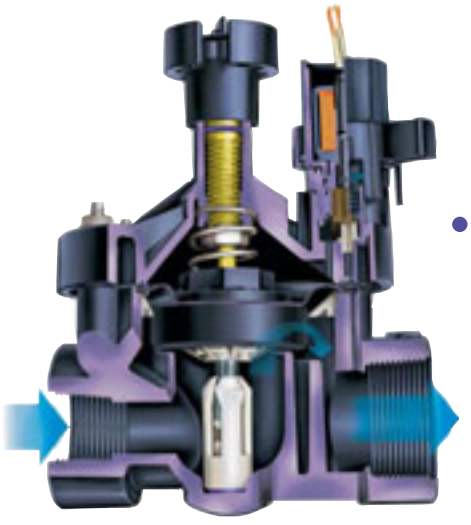
Notes

1. Loss values are with flow control fully open.

2. PRS-D recommended for use in shaded area only.

● PEB Cutaway





● PESB Cutaway

PEB and PESB Series

1", 1½", 2" (26/34, 40/49, 50/60)

- Durable glass-filled nylon construction for long life and reliable performance. Stainless steel studs molded into the body resist thread damage.
- Slow closing to prevent water hammer and subsequent system damage.
- Fabric-reinforced diaphragm for longer life.

Features

- Low flow operating capability for a wide range of applications.
- Plastic scrubber on the PESB valve scrapes the stainless steel screen to clean and break down grit and plant material. Prevents debris build-up and clogging.
- One-piece solenoid with captured plunger and spring for easy servicing. Prevents loss of parts during field service.
- Flow control handle adjusts water flow as needed.
- Manual internal bleed operates the valve without allowing water into the valve box. Allows pressure regulator adjustment without turning on the valve at the controller.
- Manual external bleed permits flushing debris from the system. Recommended for system start up and after repairs.
- Normally closed, forward flow design.
- Globe configuration.
- Compatible with Rain Bird MDC Decoder System.

Options (order separately)

- Accommodates field installed PRS-D pressure regulating module to ensure optimum sprinkler performance. Regulates up to 100 psi (6,90 bars).
- Purple flow control handles for easy identification of non-potable water systems.
  PEB-NP-HAN1(1")
  PEB-NP-HAN2 (1½" and 2")
- Accepts latching solenoid for use with Rain Bird battery-operated controllers up to 150 psi (10,35 bars).

How To Specify

100 - PEB - PRS-D

Size
1" (26/34)

Model
PEB

Optional Feature
PRS-D: pressure regulating module

Note: Valve and PRS-D module must be ordered separately. For non-U.S. applications, it is necessary to specify NPT or BSP thread type.

Operating Range

- Pressure: 20 to 200 psi (1,38 to 13,80 bars)
- PRS-D regulates up to 100 psi (6,90 bars)
- Flow: 0.25 to 200 GPM (0,06 to 45,40 m³/h; 1,2 to 757 l/m)
- Flow with PRS-D: 5 to 200 GPM (1,14 to 45,40 m³/h; 19,2 to 757 l/m)
- Water temperature: up to 150° F (66° C)
- Ambient temperature: up to 150° F (66° C)

Electrical Specifications

- 24 VAC 50/60 Hz (cycles/sec.) solenoid
- Inrush current: 0.41 A (9.84 VA) at 60Hz
- Holding current: 0.28 A (6.72 VA) at 60Hz
- Coil resistance: 30-39 Ohms

Dimensions

	Height	Length	Width
• 100 PEB and PESB:	6½" (16,5 cm)	4" (10,2 cm)	4" (10,2 cm)
• 150 PEB and PESB:	8" (20,3 cm)	6" (15,2 cm)	6" (15,2 cm)
• 200 PEB and PESB:	8" (20,3 cm)	6" (15,2 cm)	6" (15,2 cm)

Note: The PRS-D option adds 2" (5,1 cm) to valve height.

Models

• 100PEB and 100PESB	1"	(26/34)
• 150PEB and 150PESB	1½"	(40/49)
• 200PEB and 200PESB	2"	(50/60)

BSP threads available; specify when ordering.

Recommendations

1. Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft./sec. (2,29 m/s) in order to reduce the effects of water hammer.

2. For flows below 5 GPM (1,14 m³/h; 19,2 l/m), Rain Bird recommends use of upstream filtration to prevent debris from collecting below the diaphragm.

3. For flows below 10 GPM (2,27 m³/h; 37,8 l/m) Rain Bird recommends the flow control stem be turned down two full turns from the fully open position.

4. For PRS-D applications, Rain Bird recommends the installation of a pressure-regulating master valve or inline pressure regulator when the inlet pressure exceeds 100 psi (6,90 bars).

PEB and PESB Series Valve Pressure Loss (psi)

Flow GPM	100-PEB 1"	150-PEB 1½"	200-PEB 2"
0.25	0.8	-	-
0.5	1.0	-	-
1	1.3	-	-
5	1.7	-	-
10	1.8	-	-
20	2.9	3.9	-
30	5.6	3.6	-
40	10.0	3.5	-
50	15.6	3.6	4.8
75	-	5.4	4.5
100	-	9.6	5.2
125	-	14.6	8.2
150	-	21.2	11.8
175	-	-	15.5
200	-	-	19.5

PEB and PESB Series Valve Pressure Loss (bars) METRIC

Flow m³/h	Flow l/m	100-PEB 1"	150-PEB 1½"	200-PEB 2"
0,06	1	0,06	-	-
0,3	5	0,09	-	-
0,6	10	0,10	-	-
1,2	20	0,12	-	-
3	50	0,15	-	-
6	100	0,32	0,26	-
9	150	0,68	0,24	-
12	200	-	0,26	0,33
15	250	-	0,33	0,32
18	300	-	0,42	0,32
21	350	-	0,57	0,34
24	400	-	0,74	0,41
27	450	-	0,92	0,51
30	500	-	1,14	0,64
33	550	-	1,38	0,77
36	600	-	-	0,90
39	650	-	-	1,04
42	700	-	-	1,18
45	757			1,34

Notes

1. Loss values are with flow control fully open.

2. PRS-D recommended for use in shaded area only.

PESB-R Series Valves

Durable chlorine-resistant valves for reclaimed water applications

● 150PESB-R

- Reliable operation even in heavily chlorinated water. Valve diaphragm composed of EPDM, a rubber material which is chlorine and chemical resistant.
- Plastic valve parts molded of plastic which is chlorine and chemical resistant.
- Durable glass-filled nylon construction for long life and heavy-duty performance at 200 psi (13,80 bars) pressure.

Features

- One-piece solenoid design with captured plunger and spring for easy servicing. Prevents loss of parts during field service.
- PESB-R Conversion Kits also available to convert existing PEB and PESB valves to reclaimed water valve. Kit includes NP handle, sticker, diaphragm assembly, scraper and snap washer
- Stainless steel studs molded into the body. Bonnet can be attached and removed easily without damaging threads.
- External bleed protects the solenoid ports from debris when system is flushed.
- Internal bleed operates the valve without allowing water into the valve box; allows pressure regulator to be adjusted without turning on the valve at the controller first.
- Low flow operating capability (0.25 gpm; 0,06 m^3/h; 1,2 l/m) for a wide range of applications.
- Slow closing to prevent water hammer and subsequent system damage.
- Scrubber mechanism scrapes stainless steel screen clean to break down grit and plant material.
- Purple flow control handle standard on PESB-R Series valves.
- Compatible with Rain Bird MDC Decoder System.

Options (order separately)

- Accommodates optional, field installed PRS-D pressure regulating module to ensure optimum sprinkler performance.
- Accepts latching solenoid for use with Rain Bird battery-operated controllers up to 150 psi (10,35 bars).

How To Specify

100 - PESBR - PRS-D

Size
100: 1"
150: 1½"
200: 2"

Model
PESB-R: scrubber model

Optional Feature
PRS-D: pressure regulating module

Note: Valve and PRS-D module must be ordered separately.

Operating Range

- Pressure: 20 to 200 psi (1,38 to 13,80 bars)
- Flow: 0.25 to 200 GPM (0,06 to 45,40 m³/h; 1,2 to 757 l/m)
- Flow with PRS-D: 5 to 200 GPM (1,14 to 45,40 m³/h; 19,2 to 757 l/m)
- Temperature: up to 150° F (66° C)

Electrical Specifications

- Power: 24 VAC 50/60 cycle solenoid
- Inrush current: 0.41 A (9.84 VA)
- Holding current: 0.28 A (6.72 VA)
- Coil resistance: 30 - 39 Ohms

Dimensions

	Height	Length	Width
• 100PESB-R	6½" (16,5 cm)	4" (10,2 cm)	4" (10,2 cm)
• 150PESB-R	8" (20,3 cm)	6" (15,2 cm)	6" (15,2 cm)
• 200PESB-R	8" (20,3 cm)	6" (15,2 cm)	6" (15,2 cm)

Note: The PRS-D option adds 2" (5,1 cm) to valve height.

Models

- 100PESB-R 1" (26/34)
- 150PESB-R 1½" (40/49)
- 200PESB-R 2" (50/60)
- 100PESBRWK 1" (26/34) Conversion Kit
- 150PESBRWK 1½" (40/49) Conversion Kit
- 200PESBRWK 2" (50/60) Conversion Kit

BSP threads available, specify when ordering.

Recommendations

1. Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft./sec. (2,29 m/s) in order to reduce the effects of water hammer.

2. For flows below 5 GPM (1,14 m³/h; 19,2 l/m), Rain Bird recommends use of upstream filtration to prevent debris from collecting below the diaphragm.

3. For flows below 10 GPM (2,27 m³/h; 37,8 l/m) Rain Bird recommends the flow control stem be turned down two full turns from the fully open position.

PESB-R Series Valve Pressure Loss (psi)

GPM	100 - 1"	150 - 1½"	200 - 2"
0.25	1.6	-	-
0.5	3.0	-	-
1	1.8	-	-
5	2.9	-	-
10	2.9	-	-
20	2.6	3.5	-
30	5.8	3.1	-
40	10.2	2.3	-
50	16.0	2.1	3.7
75	-	4.3	3.3
100	-	7.5	4.7
125	-	11.9	8.6
150	-	17.0	12.6
175	-		14.8
200	-		18.9

PESB-R Series Valve Pressure Loss (bars) METRIC

m³/h	l/m	100 - 1"	150 - 1½"	200 - 2"
0,06	1	0,11	-	-
0,3	5	0,13	-	-
0,6	10	0,15	-	-
1,2	20	0,20	-	-
3	50	0,19	-	-
6	100	0,32	0,22	-
9	150	0,69	0,16	-
12	200	-	0,16	0,25
15	250	-	0,24	0,24
18	300	-	0,33	0,25
21	350	-	0,45	0,30
24	400	-	0,59	0,38
27	450	-	0,75	0,53
30	500	-	0,91	0,67
33	550	-	1,10	0,82
36	600	-	-	0,92
39	650	-	-	1,00
42	700	-	-	1,13
45	757			1,30

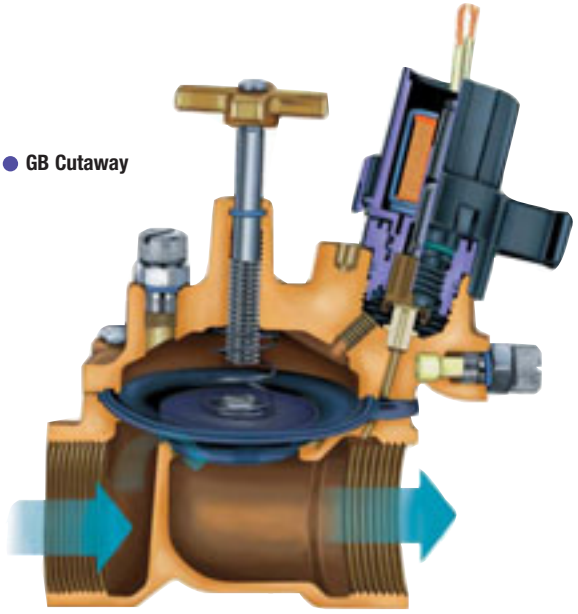
Notes

1. Loss values are with flow control fully open.

2. PRS-D recommended for use in shaded area only.

GB Series

1", 1¼", 1½", 2" (26/34, 33/42, 40/49, 50/60)



● GB Cutaway

- Rugged red brass construction for longer life.
- Durable, fabric-reinforced diaphragm for longer life, even in extreme conditions.
- Normally closed, reverse flow design ensures valve will fail in the closed position if a tear or rip in the diaphragm occurs. Prevents flooding, water waste and landscape damage.

Features

- Slow closing to prevent water hammer and subsequent system damage.
- One-piece solenoid with captured plunger and spring for easy servicing. Prevents loss of parts during field service.
- Flow control handle adjusts water flow as needed.
- Manual internal bleed operates the valve without allowing water into the valve box. Allows pressure regulator adjustment without turning on the controller.
- Manual external bleed permits flushing debris from the system. Recommended for system start up and other repairs.
- Globe configuration.
- Compatible with Rain Bird MDC Decoder System.

Options (order separately)

- Accommodates field installed PRS-D pressure regulating module to ensure optimum sprinkler performance. Regulates up to 100 psi (6,90 bars).
- Purple flow control handle for easy identification of non-potable water systems. (EFB-GB-NP-HAN)
- Accepts latching solenoid for use with Rain Bird battery-operated controllers up to 150 psi (10,35 bars).

How To Specify

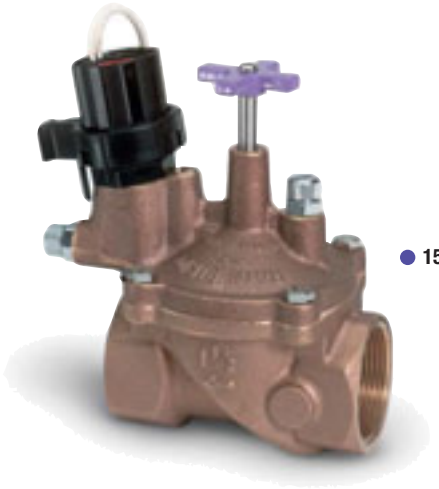
100 - GB - PRS-D

Size
1" (26/34)

Model
GB

Optional Feature
PRS-D: pressure regulating module

Note: Valve and PRS-D module must be ordered separately.



● 150-GB-NP-HAN

Operating Range

- Pressure: 15 to 200 psi (1,04 to 13,80 bars)
- PRS-D regulates up to 100 psi (6,90 bars)
- Flow with/without PRS-D: 5 to 200 GPM (1,14 to 45,40 m³/h; 19,2 to 757 l/m)
- Water temperature: up to 150° F (66° C)
- Ambient temperature: up to 150° F (66° C)

Electrical Specifications

- 24 VAC 50/60 Hz (cycles/sec.) solenoid
- Inrush current: 0.41 A (9.84 VA) at 60Hz
- Holding current: 0.28 A (6.72 VA) at 60Hz
- Coil resistance: 30-39 Ohms

Dimensions

	Height	Length	Width
• 100-GB:	6" (15,2 cm)	4½" (11,4 cm)	2¼" (5,7 cm)
• 125-GB:	5¾" (14,6 cm)	5" (12,7 cm)	3" (7,6 cm)
• 150-GB:	6½" (16,5 cm)	5½" (14 cm)	4" (10, 2 cm)
• 200-GB:	7" (17,8 cm)	6¾" (17,1 cm)	5¼" (13,3 cm)

Note: The PRS-D option adds 2" (5,1 cm) to the valve height.

Models

• 100-GB:	1"	(26/34)
• 125-GB:	1¼"	(33/42)
• 150-GB:	1½"	(40/49)
• 200-GB:	2"	(50/60)

BSP threads unavailable.

Recommendations

1. Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft./sec. (2,29 m/s) in order to reduce the effects of water hammer.

2. For flows below 5 GPM (1,14 m³/h; 19,2 l/m), Rain Bird recommends use of upstream filtration to prevent debris from collecting below the diaphragm.

3. For flows below 10 GPM (2,27 m³/h; 37,8 l/m) Rain Bird recommends the flow control stem be turned down two full turns from the fully open position.

GB Series Valve Pressure Loss (psi)

Flow GPM	100-GB 1"	125-GB 1¼"	150-GB 1½"	200-GB 2"
5	0.4	-	-	-
10	0.8	-	-	-
15	1.2	-	-	-
20	2.1	1.4	2.3	0.6
30	5.0	2.3	2.9	0.7
40	8.2	4.1	2.0	0.9
50	13.0	6.8	3.3	1.1
60	-	9.8	4.6	1.7
80	-	16.5	7.5	2.6
100	-	-	11.8	3.9
120	-	-	16.6	5.9
140	-	-	-	7.8
160	-	-	-	10.0
180	-	-	-	12.4
200	-	-	-	15.1

GB Series Valve Pressure Loss (bars) METRIC

Flow m³/h	Flow l/m	100-GB 1"	125-GB 1½"	150-GB 1½"	200-GB 2"
1	19	0,03	-	-	-
3	50	0,07	-	-	-
6	100	0,27	0,14	0,19	0,05
9	150	0,56	0,28	0,14	0,06
12	200	-	0,53	0,25	0,09
15	250	-	0,82	0,38	0,14
18	300	-	1,12	0,51	0,18
21	350	-	-	0,70	0,24
24	400	-	-	0,91	0,31
27	450	-	-	1,13	0,40
30	500	-	-	-	0,49
33	550	-	-	-	0,58
36	600	-	-	-	0,68
39	650	-	-	-	0,79
42	700	-	-	-	0,90
45	757	-	-	-	1,04

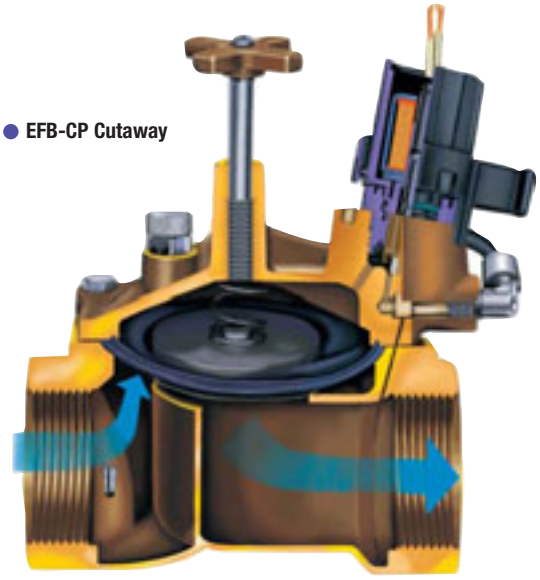
Notes

1. Loss values are with flow control fully open.

EFB-CP Series

1", 1¼", 1½", 2" (26/34, 33/42, 40/49, 50/60)

- Reliable performance even in dirty water applications. Self-flushing filter resists debris build-up.
- Rugged red brass construction for longer life.
- Durable, fabric-reinforced diaphragm for longer life, even in extreme conditions



● EFB-CP Cutaway

Features

- Normally closed, reverse flow design ensures valve will fail in the closed position if a tear or rip in the diaphragm occurs. Prevents flooding, water waste and landscape damage.
- Slow closing to prevent water hammer and subsequent system damage.
- One-piece solenoid with captured plunger and spring for easy servicing. Prevents loss of parts during field service.
- Flow control handle adjusts water flow as needed.
- Manual internal bleed operates the valve without allowing water into the valve box. Allows pressure regulator adjustment without turning on the controller.
- Manual external bleed permits flushing debris from the system. Recommended for system start up and other repairs.
- Contamination-proof, self-flushing filter screen resists debris build-up. Water flow continuously flushes the screen, dislodging particles and debris before they can accumulate and clog the filter.
- Globe configuration.
- Compatible with Rain Bird MDC Decoder System.

How To Specify

100 - EFB-CP - PRS-D

Size
1" (26/34)

Model
EFB-CP

Optional Feature
PRS-D: pressure regulating module

Note: Valve and PRS-D module must be ordered separately. For non-U.S. applications, it is necessary to specify NPT or BSP thread type.

● 150-EFB-CP-NP-HAN

Options (order separately)

- Accommodates field installed PRS-D pressure regulating module to ensure optimum sprinkler performance. Regulates up to 100 psi (6,90 bars).
- Purple flow control handle for easy identification of non-potable water systems. (EFB-GB-NP-HAN)
- Latching solenoid for use with Rain Bird battery-operated controllers up to 150 psi (10,35 bars).

Operating Range

- Pressure: 15 to 200 psi (1,04 to 13,80 bars)
- PRS-D regulates up to 100 psi (6,90 bars)
- Flow with/without PRS-D: 5 to 200 GPM (1,14 to 45,40 m^3/h; 19,2 to 757 l/m)
- Water temperature: up to 150° F (66° C)
- Ambient temperature: up to 150° F (66° C)

Electrical Specifications

- 24 VAC 50/60 Hz (cycles/sec.) solenoid
- Inrush current: 0.41 A (9.84 VA) at 60Hz
- Holding current: 0.28 A (6.72 VA) at 60Hz
- Coil resistance: 30-39 Ohms

Dimensions

	Height	Length	Width
• 100-EFB-CP:	6" (15,2 cm)	4½" (11,4 cm)	3¼" (8,3 cm)
• 125-EFB-CP:	5¾" (14,6 cm)	5" (12,7 cm)	3¼" (8,3 cm)
• 150-EFB-CP:	6½" (16,5 cm)	5½" (14 cm)	4½" (11,4 cm)
• 200-EFB-CP:	7" (17,8 cm)	6¾" (17,1 cm)	5¾" (14,6 cm)

Note: The PRS-D option adds 2" (5,1 cm) to the valve height.

Models

• 100-EFB-CP:	1"	(26/34)*
• 125-EFB-CP:	1¼"	(33/42)
• 150-EFB-CP:	1½"	(40/49)*
• 200-EFB-CP:	2"	(50/60)*

**BSP threads available; specify when ordering.*

Recommendations

1. Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft./sec. (2,29 m/s) in order to reduce the effects of water hammer.

2. For flows below 5 GPM (1,14 m^3/h; 19,2 l/m), Rain Bird recommends use of upstream filtration to prevent debris from collecting below the diaphragm.

3. For flows below 10 GPM (2,27 m^3/h; 37,8 l/m) Rain Bird recommends the flow control stem be turned down two full turns from the fully open position.

EFB-CP Series Valve Pressure Loss (psi)

Flow GPM	100 EFB-CP 1"	125 EFB-CP 1¼"	150 EFB-CP 1½"	200 EFB-CP 2"
5	0.2	-	-	-
10	0.7	-	-	-
15	1.2	-	-	-
20	2.1	1.4	2.3	0.5
30	5.0	2.3	2.9	0.6
40	8.2	4.1	2.0	0.8
50	13.0	6.8	3.3	1.1
60	-	9.8	4.6	1.8
80	-	16.5	7.5	2.4
100	-	-	11.8	3.8
120	-	-	16.6	5.9
140	-	-	-	7.8
160	-	-	-	10.0
180	-	-	-	12.5
200	-	-	-	15.8

EFB-CP Series Valve Pressure Loss (bars) METRIC

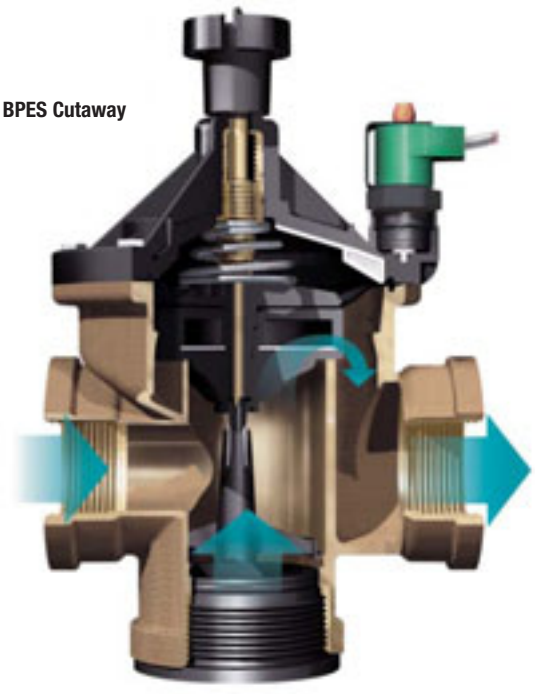
Flow m^3/h	Flow l/m	100 EFB-CP 1"	125 EFB-CP 1¼"	150 EFB-CP 1½"	200 EFB-CP 2"
1	19	0,01	-	-	-
3	50	0,07	-	-	-
6	100	0,27	0,14	0,19	0,04
9	150	0,56	0,28	0,14	0,05
12	200	-	0,53	0,25	0,09
15	250	-	0,82	0,38	0,14
18	300	-	1,12	0,51	0,16
21	350	-	-	0,70	0,23
24	400	-	-	0,91	0,30
27	450	-	-	1,13	0,40
30	500	-	-	-	0,49
33	550	-	-	-	0,58
36	600	-	-	-	0,68
39	650	-	-	-	0,79
42	700	-	-	-	0,92
45	757	-	-	-	1,09

Notes

1. Loss values are with flow control fully open.

300BPE and 300BPES Valves

3" (80/90)



● BPES Cutaway

- The reliable brass body and glass-filled nylon bonnet equips these valves to withstand extreme pressure surges, effluent water and clogging debris. For additional protection, the BPES model features a patented scrubber mechanism to actively fight dirt and particles.
- Unique hybrid construction featuring durable red brass body and glass-filled nylon bonnet for long life at a value price.
- Durable, fabric-reinforced diaphragm for longer life.

Features

- Slow closing to prevent water hammer and subsequent system damage.
- **BPES only:** Patented nylon scrubber scrapes a stainless steel screen to clean and break down grit and plant material. Prevents debris build-up and clogging.
- Globe and angle configuration for flexibility in design and installation.
- Normally closed, forward flow design.
- Robust solenoid provides dependable performance even during constant operation.
- Flow control handle adjusts water flows as needed and incorporates a brass thread insert for longer life.
- Manual external bleed permits flushing debris from the system. Recommended for system start up and repairs.
- Highly efficient operation with extremely low pressure loss.
- Compatible with Rain Bird MDC Decoder System.

How To Specify

300 - BPE - PRS-D

Model
BPE

Size
3" (80/90)

Optional Feature
PRS-D: pressure regulating module

Note: Valve and PRS-D module must be ordered separately. For non-U.S. applications, it is necessary to specify NPT or BSP thread type.

● 300-BPES

Options (order separately)

- Accommodates field-installed PRS-D pressure regulating module to ensure optimum sprinkler performance. Regulates up to 100 psi (6,90 bars).
- Purple flow control handle for non-potable water applications. (BPE-NP-HAN)
- Accepts latching solenoid for use with Rain Bird battery-operated controllers up to 150 psi (10,35 bars).

Operating Range

- Pressure: 20 to 200 psi (1,38 to 13,80 bars)
- PRS-D regulates up to 100 psi (6,90 bars)
- Flow with/without PRS-D: 60 to 300 GPM (13,62 to 68,10 m³/h; 227 to 1136 l/m)
- Water temperature: up to 110°F (43°C)
- Ambient temperature: up to 140°F (60°C)

Electrical Specifications

- 24 VAC 50/60 Hz (cycles/sec.) solenoid
- Inrush current: 0.41 A (9.84 VA) at 60Hz
- Holding current: 0.28 A (6.72 VA) at 60Hz
- Coil resistance: 28 Ohms, nominal

Dimensions

	Height	Length	Width
• 300	13⅝" (34,61 cm)	8" (20,32 cm)	7" (17,78 cm)

Models

- 300BPE 3" (80/90)
- 300BPES 3" (80/90)

BSP threads available; specify when ordering.

Recommendations

1. Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft./sec. (2,29 m/s) in order to reduce the effects of water hammer.

BPE & BPES 3" Valve Pressure Loss (psi)

Flow GPM	Globe	Angle
60	6.6	6.8
80	5.1	5.9
100	3.2	3.5
120	1.8	1.8
140	1.8	2.1
160	2.0	2.1
180	2.2	2.0
200	2.7	2.5
250	4.0	3.4
300	4.9	4.5

BPE & BPES 3" Valve Pressure Loss (bars) METRIC

Flow m³/h	Flow l/m	Globe	Angle
13,6	227	0,46	0,47
24	400	0,19	0,21
36	600	0,14	0,14
48	800	0,21	0,19
60	1000	0,29	0,26
68	1136	0,34	0,31

Notes

1. Loss values are with flow control fully open.

PRS-Dial

Pressure Regulating Module

● PRS-D cutaway

- The PRS-Dial is an excellent means of regulating outlet pressure at the valve regardless of incoming pressure fluctuations. The visible scale makes adjustment quick and easy. The regulator fits all Rain Bird PGA, PEB, PESB, PESB-R, GB, EFB-CP, BPE and BPES series valves.
- Regulates and maintains constant outlet pressure between 15 and 100 psi (1,04 to 6,90 bars) within ±3 psi (±0,21 bars).
- Adjustment knob with detents permits fine-tune setting in ⅓ psi (0,02 bar) increments. Dial cartridge makes installation and adjustment quick, easy and accurate.

Features

- Improved spike reduction capabilities reduce water hammer.
- Ergonomic design with snap-tight cover to prevent vandalism.
- Waterproof dial cartridge eliminates fogging and binding.
- Dial cartridge retrofits into all existing PRS-B units.
- Schrader valve connects pressure hose gauge, ordered separately.
- Easy field installation. PRS-Dial threads underneath the solenoid and adapter.
- Corrosion-resistant glass-filled nylon for rugged performance.

Operating Range

- Pressure: up to 100 psi (6,90 bars)*
- Regulation: 15 to 100 psi (1,04 to 6,90 bars)
- Accuracy: ±3 psi (±0,21 bar)
- Flow: refer to chart

**While the PRS-Dial unit can withstand pressures up to 200 psi (13,80 bars), accurate pressure regulation can be maintained only up to 100 psi (6,90 bars).*

● 150-PGA with PRS-D installation†

● 150-PEB with PRS-D installation†

● 150-PESBR with PRS-D installation†

● 150-EFB-CP with PRS-D installation†

● 300-BPE with PRS-D installation†

† *Note: Valve and PRS-D module must be ordered separately.*

● PRS-D

Models

- PRS-D

Application Information

- Proper operation requires inlet pressure to be a minimum of 15 psi (1,04 bars) higher than desired outlet pressure.
- For areas with very high pressure or uneven terrain, install sprinklers with PRS pressure regulating stems and/or SAM check valves.
- When inlet pressure exceeds 100 psi (6,90 bars), a pressure regulating master valve or inline pressure regulator is required.
- Rain Bird does not recommend using the pressure regulating module for applications outside the recommended flow ranges.
- To reduce the effects of water hammer, Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft/sec (2,29 m/s).
- For flows below 10 GPM (2,27 m^3/h;), Rain Bird recommends the flow control stem be turned down two full turns from the fully open position.

Valve Flow Ranges*

Model	GPM
100PGA	5-40
150PGA	30-100
200PGA	40-150
100PEB	5-50
150PEB	20-150
200PEB	75-200
100PESB/PESB-R	5-50
150PESB/PESB-R	20-150
200PESB/PESB-R	75-200
100GB	5-50
125GB	20-80
150GB	20-120
200GB	20-200
100EFB-CP	5-50
125EFB-CP	20-80
150EFB-CP	20-120
200EFB-CP	20-200
300BPE	60-300
300BPES	60-300

** These are the valve flow ranges. The PRS-Dial regulates only up to 100 psi (6,90 bars).*

Valve Flow Ranges* **METRIC**

Model	m^3/h	l/m
100PGA	1,14-9,08	19,2-151
150PGA	6,81-22,70	113-378
200PGA	9,08-34,05	151-568
100PEB	1,14-11,35	19,2-189
150PEB	4,54-34,05	76-568
200PEB	17,03-45,40	284-757
100PESB/PESB-R	1,14-11,35	19,2-189
150PESB/PESB-R	4,54-34,05	76-568
200PESB/PESB-R	17,03-45,40	284-757
100GB	1,14-11,35	19,2-189
125GB	4,54-18,16	76-302
150GB	4,54-31,78	76-529
200GB	4,54-45,40	76-757
100EFB-CP	1,14-11,35	19,2-189
125EFB-CP	4,54-18,16	76-302
150EFB-CP	4,54-31,78	76-529
200EFB-CP	4,54-45,40	76-757
300BPE	13,62-68,10	227-1136
300BPES	13,62-68,10	227-1136

** These are the valve flow ranges. The PRS-Dial regulates only up to 100 psi (6,90 bars).*

Quick-Coupling Valves

- Industrial-strength brass quick-coupling valves for convenient water access.
- Rugged, red brass construction for long life and reliable performance.
- Reliable operation with strong corrosion-resistant stainless steel spring.

● Quick-Coupling Valve Cutaway

● 3 RC

● 33 DRC

● 7

Features

- Optional locking cover on models 33DLRC, 44LRC, and 5LRC (use 2049 key to unlock). Metal cover on model 7 only.
- One-piece body design (models 3RC, 5RC, and 7).
- Two-piece body design for easy servicing (models 33DRC, 44LRC, and 44RC).
- Yellow thermoplastic cover for durability.

Operating Range

- Pressure: 5 to 125 psi (0,35 to 8,63 bars)
- Flow: 10 to 125 GPM (2,27 to 28,38 m³/h; 37,8 to 473 l/m)

Dimensions

• 3RC	Height: 4¼"	(10,8 cm)
• 33DRC	Height: 4⅜"	(11,1 cm)
• 33DLRC	Height: 4⅝"	(11,7 cm)
• 44RC	Height: 6"	(15,2 cm)
• 44LRC	Height: 6"	(15,2 cm)
• 5RC	Height: 5½"	(14,0 cm)
• 5LRC	Height: 5½"	(14,0 cm)
• 7	Height: 5¾"	(14,6 cm)

Models

- 3RC: ¾" (20/27) Rubber Cover, 1-Piece Body
- 33DRC: ¾" (20/27) Double Track Key Lug, Rubber Cover, 2-Piece Body
- 33DLRC: ¾" (20/27) Double Track Key Lug, Locking Rubber Cover, 2-Piece Body
- 44RC: 1" (26/34) Rubber Cover, 2-Piece Body
- 44LRC: 1" (26/34) Locking Rubber Cover, 2-Piece Body
- 5RC: 1" (26/34) Rubber Cover, 1-Piece Body
- 5LRC: 1" (26/34) Locking Rubber Cover, 1-Piece Body
- 7: 1½" (40/49) Metal Cover, 1-Piece Body
- 5RC-BSP: 1" (26/34) Rubber Cover, 1-Piece Body, BSP threaded
- 5LRC-BSP: 1" (26/34) Locking Rubber Cover, 1-Piece Body, BSP threaded

Note: For non-US applications, it is necessary to specify NPT or BSP thread type.

Quick-Coupling Valves for Non-Potable Water

- Industrial-strength brass quick-coupling valves for convenient water access in non-potable systems.
- Rugged red brass construction for long life and performance.
- Two-piece body design for easy servicing.

Features

- Locking purple thermoplastic covers restrict tampering (use 2049 key to unlock).
- Strong corrosion-resistant stainless steel spring prevents leakage.
- Covers marked with "Do Not Drink!" warnings in English and Spanish.

Operating Range

- Pressure: 5 to 125 psi (0,35 to 8,63 bars)
- Flow: 10 to 70 GPM (2,27 to 15,89 m³/h; 37,8 to 265 l/m)

Dimensions

- 33DNP Height: 4⅜" (11,1 cm)
- 44NP Height: 6" (15,2 cm)
- 5NP Height: 5½" (14,0 cm)

Models

- 33DNP: ¾" (20/27)
- 44NP: 1" (26/34)
- 5NP: 1" (26/34

Quick-Coupling Valves Pressure Loss (psi)

Flow	3RC	33 DRC 33 DNP	44 RC 44 NP	5NP	7
GPM	¾"	¾"	1"	1"	1½"
10	1.8	2.0	-	-	-
15	4.7	4.3	2.2	-	-
20	7.2	7.6	4.4	-	-
30	-	-	11.5	4.1	-
40	-	-	-	7.3	-
50	-	-	-	11.0	1.7
60	-	-	-	15.7	2.5
70	-	-	-	21.5	3.6
80	-	-	-	-	4.9
100	-	-	-	-	8.4
125	-	-	-	-	14.0

Quick-Coupling Valves Pressure Loss (bars) METRIC

Flow	Flow	3RC	33 DRC 33 DNP	44 RC 44 NP	5NP	7
m³/h	l/m	¾"	¾"	1"	1"	1½"
2,3	38	0,12	0,12	-	-	-
4	67	0,41	0,42	0,23	-	-
5	83	0,57	0,62	0,40	-	-
6	100	-	-	0,62	-	-
7	117	-	-	0,83	0,30	-
8	133	-	-	-	0,40	-
9	150	-	-	-	0,50	-
10	167	-	-	-	0,61	-
12	200	-	-	-	0,85	0,13
14	233	-	-	-	1,15	0,18
16	267	-	-	-	1,50	0,25
22	367	-	-	-		0,54
28	473	-	-	-		0,97

● 33-DNP

Valve Keys

Quick-Coupling Keys

Features

- Key threads into top of quick-coupling valve to provide water access.

Models

- 33DK: ¾" (20/27)
- 44K: 1" (26/34)
- 55K-1: 1" (26/34)*
- 7K: 1½" (40/49)*

**Available with BSP threads; specify when ordering.*

● 55K-1

Corresponding Valve Keys

Valve	Key	Top Pipe Threads Male	Female
3RC	33DK	¾"	½"
33DRC/33NP	33DK	¾"	½"
44RC/44NP	44K	1"	¾"
5RC	55K-1	1"	-
7	7K	1½"	1¼"

Corresponding Valve Keys METRIC

Valve	Key	Top Pipe Threads Male	Female
3RC	33DK	20/27	15/21
33DRC/33NP	33DK	20/27	15/21
44RC/44NP	44K	26/34	20/27
5RC	55K-1	26/34	-
7	7K	40/49	33/42

SH Series

Hose Swivel

Features

- Attaches water hose to quick-coupling valve key.
- Swivels up to 360°.
- Allows hose to be pulled in any direction.
- Prevents hose damage.

Specifications

- SH-0: ¾" (20/27) female pipe thread x ¾" (20/27) male hose thread
- SH-1: 1" (26/34) female pipe thread x ¾" (20/27) male hose thread
- SH-2: 1" (26/34) female pipe thread x 1" (26/34) male hose thread
- SH-3: 1½" (40/49) female pipe thread x 1" (26/34) male hose thread

Models

- SH-0
- SH-1
- SH-2*
- SH-3

**Available with BSP threads.*

● SH-0

Locking Cover Key

Features

- Locks and unlocks the optional locking cover on quick-coupling valves.
- Operates the valve marker compression lock.
- Compatible with models 33DLRC, 33DNP, 44LRC, 44NP, and 5LRC.

Model

- 2049 Cover Key

● 2049

VB Series Valve Boxes

Now You Can Judge A Valve Box By Its Cover

- Easily removable knock-outs simplify pipe placement and reduce installation time.
- Large top opening area provides unobstructed access to valves.
- Corrugated sides provide strength both before and after knock-outs are removed.

Features

These features apply to the **Standard, Jumbo, Super Jumbo, Maxi Jumbo, and 10" Round** Valve Boxes:

- Knock-out retainers align removed knock-outs in place above the pipe to help keep dirt out during backfill.
- Beveled lid edges help prevent damage to lids from lawn equipment.
- Interlocking bottoms allow boxes to mate securely together bottom-to-bottom for deep installations.
- Lid marking area provides dedicated location for valve identification.

Additional Features

STANDARD RECTANGULAR SERIES (VB - STD)

- Two large center knock-outs accommodate up to 3½" diameter pipe and eleven knock-outs accommodate up to 2" diameter pipe. (Extensions and shallow boxes do not have knock-outs.)
- Shovel access slot on the body allows for easy lid removal.
- Bolt hole knock-out in the lid keeps insects out of the box when bolt is not used.
- Optional stainless steel bolt and clip securely fasten the lid to the body.
- Available lid colors are green, purple (to indicate non-potable water), tan (for desert soils), and black.

JUMBO RECTANGULAR SERIES (VB - JMB)

- Two large center knock-outs accommodate up to 3½" diameter pipe. (Extension does not have knock-outs.)
- Shovel access slot on the body allows for easy lid removal.
- Bolt hole knock-out in the lid keeps insects out of the box when bolt is not used.
- Optional stainless steel bolt and clip securely fasten the lid to the body.
- Wrench grip on lid makes it easier to remove the lid.
- Available lid colors are green, purple (to indicate non-potable water), tan (for desert soils), and black.

SUPER JUMBO RECTANGULAR SERIES (VB - SPR)

- Fourteen knock-outs accommodate up to 3½" diameter pipe.
- Shovel access slots on both ends of the body allow for easy lid removal.
- Wrench grips on lids makes it easier to remove the lid.
- Includes two stainless steel bolts and clips to securely fasten the lid to the body.
- Available lid colors are green and tan (for desert soils).

MAXI JUMBO RECTANGULAR SERIES (VB - MAX)

- Eighteen knock-outs accommodate up to 3½" diameter pipe.
- Shovel access slots on both ends of the body allow for easy lid removal.
- Wrench grips on lids makes it easier to remove the lid.
- Includes two stainless steel bolts and clips to securely fasten the lid to the body.
- Available lid colors are green and tan (for desert soils).

● VB-SPR-H

● VB-MAX-H

VB Series (continued)

10" ROUND SERIES (VB - 10RND)

- Four equally spaced knock-outs accommodate up to 2" diameter pipe. (Extension does not have knock-outs.)
- Bolt hole knock-out in the lid keeps insects out of the box when bolt is not used.
- Optional stainless steel bolt and clip securely fasten the lid to the body.
- Available lid colors are green, purple (to indicate non-potable water), tan (for desert soils), and black.

6" ROUND SERIES (VB - 6RND)

- Two pre-molded side openings accommodate up to 2" diameter pipe.
- Corrugated sides provide strength.
- Beveled lid edges help prevent damage to lids from lawn equipment.
- Lid snaps securely into place.
- Lid can be removed by inserting a finger or screwdriver in one of four access slots.
- Available in green body and green lid only.

Models and Dimensions

STANDARD RECTANGULAR SERIES

Standard box: 21.8" L x 16.6" W x 12.0" H (55,4 cm x 42,2 cm x 30,5 cm)

- VB - STD: Black body and green lid
- VB - STDP: Black body and purple lid
- VB - STD - B: Black body only
- VB - STD - L: Green lid
- VB - STDP - L: Purple lid
- VB - STDT - L: Tan lid
- VB - STDBK - L: Black lid
- VB - STD - H: Black body and green lid with locking hex bolt

Standard 6" extension: 20.0" L x 14.75" W x 6.75" H
(50,8 cm x 37,5 cm x 17,1 cm)

- VB - STD - 6EXT - B: 6" standard extension black body only
- VB - STD - 6EXT: 6" standard extension black body and green lid

Standard 6" box: 20.0" L x 14.75" W x 6.75" H
(50,8 cm x 37,5 cm x 17,1 cm)

- VB - STD - 6B: 6" standard black body only
- VB - STD - 6: 6" standard black body and green lid

JUMBO RECTANGULAR SERIES

Jumbo box: 26.3" L x 19.8" W x 12.1" H (66,8 cm x 50,3 cm x 30,7 cm)

- VB - JMB: Black body and green lid
- VB - JMBP: Black body and purple lid
- VB - JMB - B: Black body only
- VB - JMB - L: Green lid
- VB - JMBP - L: Purple lid
- VB - JMBT - L: Tan lid
- VB - JMBBK - L: Black lid
- VB - JMB - H: Black body and green lid with locking hex bolt

Jumbo 6" extension: 24.4" L x 17.9" W x 6.75" H
(62,0 cm x 45,5 cm x 17,1 cm)

- VB - JMB - 6EXT - B: 6" jumbo extension black body only
- VB - JMB - 6EXT: 6" jumbo extension black body and green lid

SUPER JUMBO RECTANGULAR SERIES

Super jumbo box: 33.1" L x 23.8" W x 15.0" H
(84,1 cm x 60,5 cm x 38,1 cm)

- VB - SPR - B: Black body only
- VB - SPR - L: Green lid
- VB - SPR - H: Black body and green lid with 2 locking hex bolts
- VB - SPRT - H: Black body and tan lid with 2 locking hex bolts

VB-JMB

VB-STD

VB-10RND

VB-6RND

MAXI JUMBO RECTANGULAR SERIES

Maxi jumbo box: 40.3" L x 27.1" W x 18.0" H
(102,4 cm x 68,8 cm x 45,7 cm)

- VB - MAX - B: Black body only
- VB - MAX - L: Green lid
- VB - MAX - H: Black body and green lid with 2 locking hex bolts
- VB - MAXT - H: Black body and tan lid with 2 locking hex bolts

10" ROUND SERIES

10" round box: 10.25" Top D x 10.0" H x 13.75" Bottom D
(26,0 cm x 25,4 cm x 34,9 cm)

- VB - 10RND: Black body and green lid
- VB - 10RND - B: Black body only
- VB - 10RND - L: Green lid
- VB - 10RNDP - L: Purple lid
- VB - 10RNDT - L: Tan lid
- VB - 10RNDBK - L: Black lid
- VB - 10RND - H: Black body and green lid with locking hex bolt

● **VB-STD-6**

6" ROUND SERIES

6" round box: 6.1" Top D x 9.0" H x 8.3" Bottom D
(15,5 cm x 22,9 cm x 21,1 cm)

- VB - 6RND: Green body and green lid

● **VB-JMB-6EXT**

LOCKING SYSTEMS

- VB - LOCK - H: Hex head ⅜" x 2¼" (1,0 x 5,7 cm) bolt, washer, and clip
- VB - LOCK - P: Penta head ⅜" x 2¼" (1,0 x 5,7 cm) bolt, washer, and clip

● **Valve Box Lids - green, tan (for desert soils), purple (to indicate non-potable water), and black**

● **Interlocking bottoms for deep installations**

UVMS - Union Valve Manifold System

Makes installing complete valve systems extremely fast and very easy

● **UVMS-4-DVF-S***
***available with DVF Flow Control Valves only (not shown)**

- Available in 2, 3, or 4 valve configurations using the proven Rain Bird DVF female union valves.
- Complete kit includes all necessary parts for PVC or poly pipe systems.
- Close spacing fits the knock-out spacing of the Rain Bird standard valve box.

Features

- Tight O-ring seals prevent leaks.
- Oversized internal diameter improves flow through the manifold.
- Use as slip fit with 1" (2,5 cm) pipe or spigot with 1¼" (3,2 cm) pipe.
- Kit includes 1 slip adapter outlet fitting per valve for connection to either ¾" (1,9 cm) or 1" (2,5 cm) PVC pipe, 1 end cap, and 1 optional barb fitting to connect manifold to poly pipe (included with -B systems only). Also includes wire splices.
- Durable schedule 80 construction.

Specifications

- Operating pressure up to 235 psi (16,0 bars) at 73 °F (23 °C)

Models

- UVMS-2-DVF-S
- UVMS-2-DVF-B
- UVMS-3-DVF-S
- UVMS-3-DVF-B
- UVMS-4-DVF-S
- UVMS-4-DVF-B

How To Specify

UVMS - 4 - DVF - S

Model
Union Valve Manifold System

Number of Valves
2
3
4

Valve
DVF

Fitting
S: Slip
B: Barb

16A-FDV / 16A-FDV-075

Drain Valves

Features

- Automatically drains pipes to prevent freezing damage.
- Plastic perforated cap screens out large particles; dispersion pad filters out smaller particles.

Operating Range

- Operating pressure up to 125 psi (8,5 bars)
- Flow: 1 GPM (0,23 m³/h; 0,06 l/s) maximum rate before sealing

Specifications

- Average opening pressure when installed vertically: 2.5 psi (0,2 bar)
- Average closing pressure when installed vertically: 5.5 psi (0,4 bar)
- Diameter: 1⅜" (3,5 cm); Length: 1" (2,5 cm)

Models

- 16A-FDV: ½" (15/21) male threaded inlet
- 16A-FDV-075: ¾" (20/27) male threaded inlet

● 16A-FDV

SPLICE-1

Wire Splice

Features

- Fast, reliable splicing.
- UV resistant black housing is pre-filled with non-toxic lithium grease.

Specifications

- Splices low voltage electrical control wires: 30 V max
- Fits wires up to
  - 5 #18, #20, or #22 AWG
  - 4 #16 AWG
  - 2 #14 AWG

Model

- SPLICE-1

● SPLICE-1

Jar Top Valve (JTV) Bonnet Wrench

Features

- Remove and tighten JTV/JTVF bonnets in hard to reach areas.
- Multiple drive options.
  - crescent or spanner wrench, channel locks on 1" external flats.
  - ⅜" drive socket wrench receiver.
  - screwdriver shaft or dowel in 1/2" radial holes.
  - by hand.
- Compatible with JTV (standard) and JTVF (flow control) models.
- Can remove bonnet with solenoid installed.

Model

- BW-JTV

● BW-JTV

Valve Handle Assembly for Non-Potable Water Identification

Features

- Purple flow control handle identifies valve as part of a non-potable system.
- Easily field installed.
- Sizes for all Rain Bird commercial valves.

Models

- PGA-NP-HAN1 (1" and 1½" PGA Valves)
- PGA-NP-HAN2 (2" PGA Valves)
- PEB-NP-HAN1 (1" PEB/PESB Valves)
- PEB-NP-HAN2 (1½" and 2" PEB/PESB Valves)
- EFB-GB-NP-HAN (all EFB-CP and GB Valves)
- BPE-NP-HAN (3" BPE/BPES Valves)

● BPE-NP-HAN

● PEB-NP-HAN PGA-NP-HAN EFB-GB-NP-HAN

B to A Solenoid Adapter Kit

Features

- Rugged construction.
- Includes model A solenoid.
- Easily field installed.
- Fits all plastic and brass commercial valves (PGA, PEB, PESB, GB, and EFB-CP)
- Standard on BPE and BPES series valves

Electrical Specifications

- 24 VAC 50/60 Hz (cycles/sec.)solenoid
- Inrush current: 0.41 A (9.84 VA) at 60Hz
- Holding current: 0.28 A (6.72 VA) at 60Hz
- Coil resistance: 28 Ohms, nominal

Model

- SOL-ADA

● Solenoid Adapter

Right Choice in Jar Top Valves Sales Brochure

Features

- Used by contractors when recommending Jar Top Valves to homeowners.
- Size is 8½" wide x 11" high.
- 3-hole punched; Packs of 25.
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814.
- Reference no. D39592A.

Right Choice in ASVF, DV, and PEB Valves Sales Brochure

Features

- Used by contractors when recommending valves in the ASVF, DV, or PEB series to homeowners.
- Size is 8½" wide x 11" high.
- 3-hole punched; Packs of 25.
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814.
- Reference no. D39324.

24 VAC Solenoid Valves Wire Sizing

6.8 VA Valves (EZ) with 26.5 Volt Transformers - Equivalent Feet of Circuit Length

80 psi (5,5 bars) Water Pressure at Valve

Common Wire Size	Control Wire Size 18	16	14	12	10	8	6	4
18	3000							
16	3700	4800						
14	4300	5900	7700					
12	4800	6900	9400	12200				
10	5200	7700	11000	15000	19400			
8	5500	8300	12300	17500	23900	30900		
6	5700	8800	13300	19600	27800	38000	49200	60400
4	5800	9100	14000	21100	31100	44300	60400	78200

100 psi (6,9 bars) Water Pressure at Valve

Common Wire Size	Control Wire Size 18	16	14	12	10	8	6	4
18	2800							
16	3500	4500						
14	4100	5500	7200					
12	4500	6500	8900	11500				
10	4900	7300	10300	14100	18300			
8	5200	7800	11600	16500	22500	29100		
6	5400	8300	12500	18400	26200	35700	46300	
4	5500	8500	13200	19900	29300	41700	56900	73600

125 psi (8,6 bars) Water Pressure at Valve

Common Wire Size	Control Wire Size 18	16	14	12	10	8	6	4
18	2600							
16	3200	4200						
14	3800	5200	6700					
12	4200	6000	8200	10700				
10	4600	6700	9600	13100	17000			
8	4800	7300	10800	15300	20900	27100		
6	5000	7700	11600	17100	24400	33200	43100	
4	5100	7900	12200	18500	27300	38800	52900	68500

150 psi (10,4 bars) Water Pressure at Valve

Common Wire Size	Control Wire Size 18	16	14	12	10	8	6	4
18	2400							
16	3000	3900						
14	3500	4800	6200					
12	3900	5600	7700	10000				
10	4300	6300	9000	12200	15900			
8	4500	6800	10000	14300	19500	25300		
6	4600	7200	10800	16000	22800	31000	40200	
4	4700	7400	11400	17300	25400	36200	49400	63900

200 psi (13,8 bars) Water Pressure at Valve

Common Wire Size	Control Wire Size 18	16	14	12	10	8	6	4
18	2200							
16	2700	3600						
14	3200	4400	5700					
12	3600	5200	7200	9300				
10	4000	5900	8400	11300	14800			
8	4200	6300	9200	13300	18100	23500		
6	4300	6700	10000	14800	21200	28600	37300	
4	4400	6900	10600	16100	23500	33600	45900	59300

Valve Wire Sizing Procedure

Step 1

Determine actual distance, along wire run, from controller out to the first valve on a circuit and between each succeeding valve on a multiple valve circuit (as shown in Figure A). Example: (Two watt solenoid, 26.5 volt transformer at 150 psi water pressure at valves.)

Step 2

Calculate the equivalent circuit length for each valve circuit on the controller. (See chart to right)

Step 3

Selecting Common Wire Size: Using the longest equivalent length calculated above, go to the appropriate valve chart and select a common wire and a control wire that are as close to the same size as possible (the common wire size should always be equal to or one size larger than the control wire size.) In the example above, the circuit for station #3 has the longest equivalent length, 7000 feet. In the chart (for this example use the high pressure chart for 150 psi water pressure at the valve and a 26.5 volt transformer) select a wire size combination of size 14 and 12 wire. Select common wire as size 12 wire. Since one common wire shall be used for all valves on the controller, you have now established the common wire size for that controller as size 12 wire.

Step 4

Sizing Circuit Control Wires: Using the common wire size selected in Step 3 (size 12), proceed to select each control wire size from the chart using the calculated equivalent length for each circuit.

Station #1: Equiv. Length = 1 valve x 2000 ft. = 2000 ft. select size 18 control wire

Station #2: Equiv. Length = (1 valve x 1000 ft.) + (2 valves x 2000 ft.) = 5000 ft. select size 16 control wire

Station #3: Equiv. Length = (1 valve x 500 ft.) + (2 valves x 1000 ft.) + (3 valves x 1500 ft.) =7000 ft. select size 14 control wire

4.6 VA Valves (DV) - Equivalent Feet of Circuit Length

80 psi (5,5 bars) Water Pressure at Valve

Common Wire Size	Control Wire Size 18	16	14	12
18	3000			
16	3680	4700		
14	4290	5850	7570	
12	4800	6840	9300	12050

100 psi (6,9 bars) Water Pressure at Valve

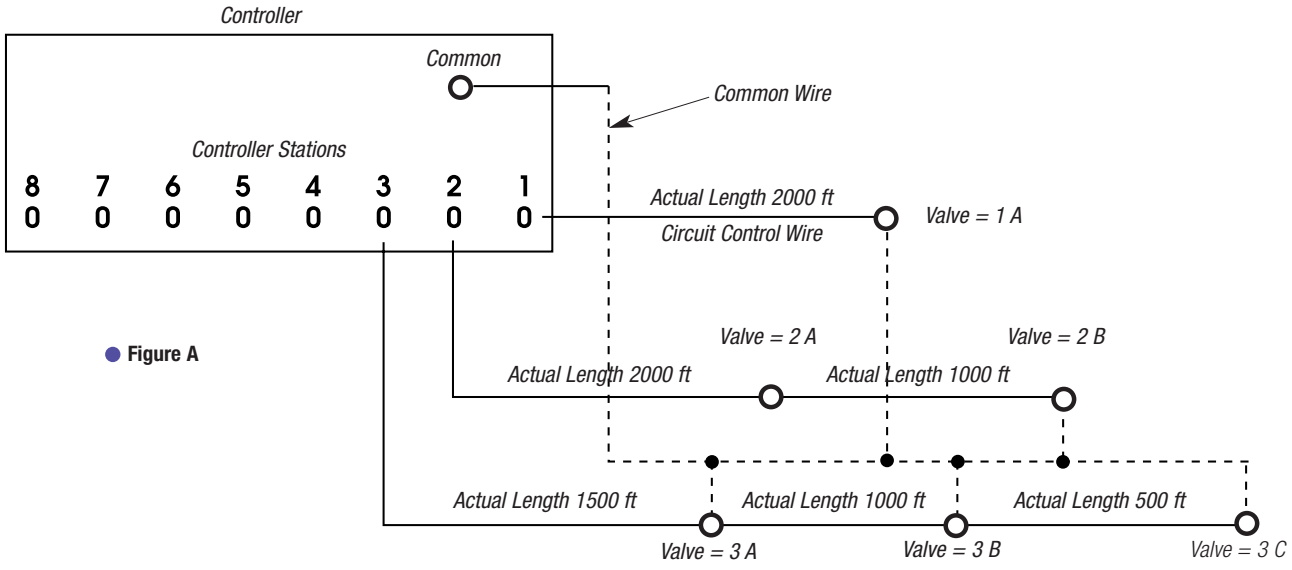
Common Wire Size	Control Wire Size 18	16	14	12
18	2300			
16	2820	3660		
14	3290	4490	5800	
12	3680	5240	7130	9420

125 psi (8,6 bars) Water Pressure at Valve

Common Wire Size	Control Wire Size 18	16	14	12
18	1400			
16	1720	2200		
14	2000	2730	3530	
12	2240	3190	4340	5620

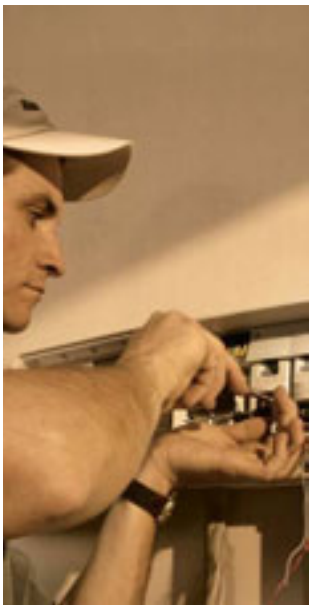
150 psi (10,4 bars) Water Pressure at Valve

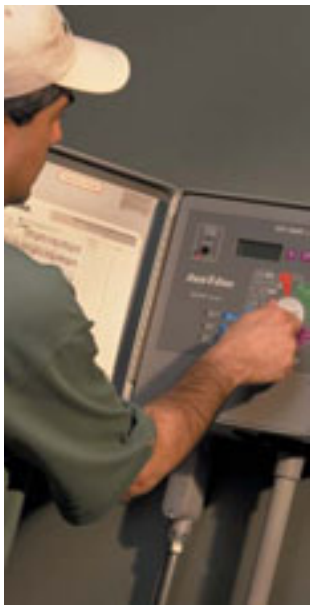
Common Wire Size	Control Wire Size 18	16	14	12
18	600			
16	730	950		
14	860	1170	1510	
12	960	1370	1860	2410



● Figure A

Controllers





It's all about reliability, flexibility and ease of use.

Rain Bird® controllers have long earned the trust of irrigation professionals worldwide. Nobody else has controller programming that's simpler or easier to understand. Nobody else has a track record of reliability that even comes close. Nobody else sets the quality standard for surge protection and contamination resistance. Nobody else has more features and options to assure customer comfort and save you time. And as you know-in this business-time is money.

Install Confidence®
Install Rain Bird® Controllers.


ESP-LX MODULAR

Major Products

	Ec	ESP-TM	ESP Modular	ESP-LX Plus	ESP-LX Modular	ESP-MC	EASY RAIN™	TBOS™
Primary Applications								
Residential	●	●	●	●	●	●	●	●
Light Commercial			●	●	●	●	●	●
Commercial/Industrial						●		●
Type of Controller								
Hybrid	●	●	●	●	●	●	●	
Solid State								●
Battery Operated							●	●
Indoor Location	●	●	●	●	●	●		
Outdoor Location			●	●	●	●		
Features								
Stations (up to)	9	8	13	24	32	40	1	6
Programs	3	2	3	4	4	4	1	3
Station Timing (up to)	4 hr*	99 min*	6 hr*	12 hr*	12 hr*	12 hr*	90 min	12 hr
Number of Starts per Program (up to)	4	3	4	6	8	8	2	8
Surge Protection	●	●	●	●	●	●		
230VAC Option	●		●	●	●	●		
Master Valve/Pump Start	●	●	●	●	●**	●**		
Water Budgeting	●	●	●	●	●******	●		
Individual Program Shut-Off				●	●	●		
Rain Delay				●	●	●		
Battery Programmable	●		●	●	●	●	●	●
Sensor Terminals, Status Indicator & Override			●	●	●***	●		
Delay Between Stations (up to)			9 hr	9 hr	9 hr	9 hr		
Simultaneous Multi-Station Operation				●	●	●		●
Cycle+Soak™					●	●		
Overlapping Programs				●****	●****	●		
Manual On/Off	●	●	●	●	●	●	●	●
Remote Control Compatible			●	●	●	●*****		
Diagnostic Test (RASTER™)				●	●	●		
Diagnostic Circuit Breaker	●		●	●	●	●		
Out-of-Valve Box Programming							●	●
Submersible (up to)							3.3 ft (1 m)	3.3 ft (1 m)
Vandal/Tamper Resistant								●
Self-Cleaning Solenoid							●	●
Low Battery Indicator								●
Programming Schedule								
7 Day-of-Week	●	●	●	●	●	●		●
2, 3, 5 Fixed Cycle		●	●					
1-7 Variable Cycle	●	●	●				● (1 to 3 days)	●
1-31 Variable Cycle			●	●	●			
1-99 Variable Cycle						●		
Odd/Even Cycle	●		●	●	●	●		●
Odd 31st	●			●	●	●		●
365-Day Calendar	●		●	●	●	●	●	●
Event Day Off			●	●	●	●		
Pre-Programmed Cycles	3						6	
Pre-Programmed Run Times	2						7	
Central Control Compatibility								
Maxicom²® and SiteControl Upgradeable						●		
IQ™ Upgradeable					●			
Cabinet								
Plastic-Indoor	●	●	●	●	●			
Plastic-Outdoor			●	●	●			
Metal-Outdoor						●		
Stainless Steel Pedestal Option						●		
Painted Pedestal Option						●		
Accessories								
RSD Rain Sensor	●	●	●	●	●	●		●
TBOS Rain Shut-Off Device								●

**With water budgeting, timing can be extended (Ec, ESP-TM, ESP-Modular, ESP-LX+, ESP-MC) **Programmable by station ***Software override ****With program D only*
****** Not compatible with Rain Bird remotes ****** Selectable for each program and by month*

Ec Controller

4, 6, 9 Stations
Indoor Controller for Residential Use

- Preset schedules for quick and simple set-up of common watering schedules
- Programmable under battery power for programming prior to installation or AC hookup
- Compact design with easy to follow installation, programming and operation

Features

- English, Spanish and French manual
- Test Program (1-10 min. all stations) for system operational testing
- Battery backup for memory and time protection, in case of power outage (battery included)
- Default program in case a power outage outlasts the memory protection (The default program automatically clears itself when the controller is reprogrammed.)
- Flashing LCD screen (in AUTO setting) to indicate operation under default program
- Electrical surge protection (input) for reliability
- AC power indicator light confirms AC power to controller
- Diagnostic circuit breaker without a fuse identifies a station with valve or wire fault and continues to water operable stations
- Three programs (A, B, and C) with independent cycles allow mixed irrigation applications
- 365-day calendar for ODD or EVEN day watering or ODD-with-31st-of-the-month-off selection per program (adjusts for leap-year)
- Repeating day cycles, allow irrigation every 1, 2, 3, 4-days, etc. up through 7. (In the 7-day weekly cycle any day can be set ON or OFF as a watering day.)
- Manual "clear" function allows manual erasure of all programs
- Auto-sensing a.m./p.m. or 24-hour-format time display mode
- Manual station and cycle option allows you to spot water when needed
- UL, cUL listed; CE, C-Tick approved

Operating Specifications

- Programming schedule options: ODD day/date watering (per program), EVEN day/date watering (per program), 1 through 6-day repeating cycle (per program), 7-day weekly cycle with any day ON or OFF setting, and ODD less 31st day of the month watering
- Station Timing: 0 to 240 minutes in 1-minute increments
- Automatic starts per water day: 12 start times (4 per program per day)
- Global Water Budgeting: 10%-200% in 10% increments

Electrical Specifications

- Input required: 120 VAC ± 10%, 60 Hz (230 VAC international models available)
- Output 24 VAC @ 0.65A
- Valve capacity: One 24 VAC, 7VA solenoid valve per station plus a master valve
- Terminal strip capacity: accepts #20, #18, or #16 AWG (0,813 mm, 1,22 mm, or 1,63 mm) size valve wire

Dimensions

- Width: 6½" (16,5 cm)
- Height:5⅝" (14,2 cm)
- Depth: 1⅝" (4,0 cm)

Models

- E-4c: 4 station, indoor
- E-6c: 6 station, indoor
- E-9c: 9 station, indoor

● E-6C

ESP-TM Series Controllers

4, 6, 8 Stations
Indoor Controller for Residential Use

- Key features at an attractive price makes the ESP-TM the ideal choice for tract home or basic residential applications.
- ESP user interface makes the ESP-TM one of the easiest controllers to program.
- Water budgeting feature allows easy irrigation program adjustments to match seasonal needs.

Features

- ESP Extra-Simple Programming
- Two independent programs (A and B)
- "Flip Strip " terminal strip permits valve wire hookup without screws
- Wiring skirt for clean looking, professional installation
- System water budgeting makes seasonal adjustments quick and easy
- Precise station timing in 1-minute increments
- Programmable day-of-week watering schedule
- Independent dual programming
- Easy-to-understand AM/PM clock
- Self-prompting alphanumeric liquid crystal display (LCD)
- .65A external plug-in style transformer
- Slim, indoor cabinet
- Manual start/advance capability for semiautomatic operation
- Mounting screws provided
- Large, high contrast LCD

Operating Specifications

- Station timing: 0-99 minutes (in 1-minute increments); 0-198 minutes with water budgeting
- Automatic starts: 3 per day for each program (6 per day when using dual program capability)
- Programming schedule: 2-, 3- or 5-day fixed cycle or 7-day variable cycle
- Water budgeting: 10-200% in 10% increments

Electrical Specifications

- Input required: 120 VAC, 60Hz
- Output 24 VAC, .65A
- Surge protection: Primary input side has built-in MOV (metal oxide varistor) to protect microcircuitry. Output side has 1 built-in MO V for each valve station.
- Battery backup: A 3V lithium coin cell battery maintains program memory up to several months and keeps timing accuracy during a power outage (battery included with controller)
- Default program: After prolonged power interruption, each station waters 10 minutes beginning 8 hours after power resumes—once per day for the 7-day custom cycle or on the first day of the 2-, 3- or 5-day fixed cycle
- Single-valve station capacity: One 24 VAC, 7VA solenoid valve per station, plus a master valve

Dimensions

- Width: 7" (17,8 cm)
- Height: 8¼" (21 cm)
- Depth: 2¼" (5,7 cm)

Models

- ESP-4TM: 4 stations
- ESP-6TM: 6 stations
- ESP-8TM: 8 stations

● ESP-6TM

ESP Modular Series

4, 7, 10, 13 Stations

Indoor or Outdoor for Residential and Light Commercial Use

- Modularity: Start with the 4-station base controller and easily expand to 13. Minimize inventory; always keep the right station count on hand.
- Quality: Built-in reliability; designed with durable parts, superior surge protection and high temperature tolerance.
- Easy to use ESP-style programming: So simple to set up, time tested and homeowner approved; you'll be on to the next job faster than ever.

Features

- Easily upgrades from a 4 station base model to 13 stations with the addition of 3-station modules at installation or in the future
- Hot-swappable modules can be installed while the controller is in operation and in any position
- Contractor Default™ Program allows the contractor to save his own default program and retrieve it with the push of a button. Easily reload a schedule that has been altered by a homeowner or replace a temporary schedule for new seed or sod
- Enhanced Diagnostic Feedback™ alerts the user to conditions when watering is suspended due to an activated sensor, shorted stations or programming errors with a warning light and message on the LCD
- Auxiliary Station™ (Station 13) can be set to bypass an active sensor to allow watering even if the other stations are disabled or can be set as a normal station. Ideal for covered patio watering or non-irrigation systems such as landscape lighting or fountains.
- NEW Master valve/pump start circuit programmable by station allows operation of connected pump as needed.
- NEW Programmable delay between station allows additional time between zones for water well recovery or slow closing valves.
- 365-day calendar with leap year intelligence ensures accurate Odd/Even day watering
- Non-volatile memory maintains the irrigation schedule indefinitely during a power outage
- NEW 5-year lithium battery maintains the time and date for a cumulative life of 5 years during power outages.
- Programmable day off allows the user to set any day of the week as a non-watering day in any program or schedule, making it easy to comply with requirements such as weekly lawn care, maintenance or watering restrictions.
- Global seasonal adjust (0-200%) allows the user to alter the run time of all the valves in every program.
- Dedicated sensor terminals allow the user to easily connect a sensor to the controller for maximum water efficiency. A light (LED) and a message on the LCD indicates when a sensor is active
- Sensor bypass switch allows the user to override an active sensor
- Fuseless, diagnostic circuit breaker identifies a station with valve or wiring problems and continues to water operable stations
- Valve Test Terminal allows the installer to test the valve wires during installation to determine the valve that each wire is connected to
- Spacious heavy-duty cabinet with internal junction box provides lots of room for wiring and eliminates the need to purchase an external j-box for a clean and professional looking installation. Outdoor model comes with key-locking cabinet

ESP Modular

Operating Specifications

- Number of programs: 3 independent
- Automatic Starts: 4 per program, 12 total
- Station timing: 0 to 6 hours for all stations
- Independent programming schedules:
  - Custom (water by day of the week)
  - Odd (water on odd days of the month except on the 31st and February 29th if a leap year)
  - Even (water on even days of the month)
  - Cyclical (1-31 days: water from every other day to once every 31 days)

Electrical Specifications

- Input required: 120 VAC ± 20%, 60Hz / 230VAC ± 20%, 50Hz / 240VAC ± 20%, 50Hz
- Output: 25.5 VAC 1A
- Surge Protection: Primary input side has 2 built-in MOVs (metal oxide varistor) to protect circuitry. Output side has 2 built in MOVs for each valve station
- Power back-up: Lithium coin-cell battery maintains time and date while non-volatile memory maintains the schedule
- Multi-valve station capacity: Up to two 24 VAC, 7VA solenoid valves per station plus a master valve

Dimensions

- Width: 10.7" (27,2 cm)
- Height: 7.7" (19,5 cm)
- Depth: 4.4" (11,2 cm)

Models

- ESP-4Mi: 4 station controller indoor model
- ESP-4M: 4 station controller outdoor model*
- ESP-SM3: 3 station module

**Available in 120VAC, 230VAC and 240VAC models*

ESP-LX Plus and LXi Plus Series

6, 8, 12, 16, 20, 24 Stations
Indoor (I) or Outdoor for Residential and Light Commercial Use

- ESP: Extra-Simple Programming with self-prompting large alphanumeric LCD display makes this controller easy to program, read, and understand.
- Multiple levels of surge protection make the controller reliable and robust under extreme field conditions.
- Rapid Station Test Routine (RASTER™) enables the controller to diagnose and troubleshoot field wiring and solenoid problems quickly and easily.

Features

- Four independent programs (A-, B-, C-, and D-drip), with six start times each, allow mixed irrigation applications in a single controller
- 365-day calendar with leap year intelligence for one-time date and time setting
- Non-volatile program memory maintains user's program during a power outage independent of the battery backup.
- Removable, battery-programmable panel for the convenience of both programming instruction and programming prior to installation
- Four cycle modes (CUSTOM, CYCLICAL, ODD, or EVEN) selectable for each program for maximum flexibility
- Event-Day-Off option to set any day of the month as a non-watering day for all programs accommodates special occasions and special watering ordinances (with permanent off option for 31st day of the month)
- Programmable Delay-Between-Stations (0 seconds to 9 hours) provides time for water well recovery or time for slow-closing valves to turn off completely.
- Start time stacking prevents hydraulic overload
- Variable test program for system operational testing
- Water budgeting by program from 0 to 300% in 1% increments makes seasonal adjustments quick and easy
- Programmable rain delay enables system to stay off for specified period with an auto-restart
- Sensor inputs and override switch with LED indicate when irrigation is suspended
- Master valve/pump start circuit, programmable by station, for optimal irrigation control
- D-drip program can run simultaneously with program A, B or C to maximize hydraulic capacity and minimize watering time

● ESP-16LX Plus

- Diagnostic circuit breaker and LED fault indicator identify electrical shorts, skip shorted stations, and continue irrigation cycle
- Battery recharging circuit maintains fully charged Ni-Cad backup battery (included) to keep current time and date during a power outage
- Heavy-duty 1.25A external, plug-in style transformer on the ESP-LXi Plus indoor version provides convenient installation
- Includes easy-to-mount, heavy-duty plastic cabinet with key-lockable door and swing-out, quick release face panel, as well as all internal wiring (no junction box needed), for clean-looking, professional installation
- UL and cUL listed; CE, and C-Tick approved
- Special Fuse Circuitry detects and displays when a fuse has blown
- Interactive programming guide shipping with every unit on a CD makes this controller easy to program and understand

Operating Specifications

- Station timing: 0 to 12 hours for all stations (0 to 16 hours with water budgeting); 0 to 120 minutes selectable in 1-minute incre-ments; above 120 minutes selectable in 10-minute increments
- Automatic starts: 6 starts per day for each program, available on the quarter hour (total of 24 start times)
- Independent program schedule options:
  - ODD day watering (per program)
  - EVEN day watering (per program)
  - CYCLICAL (1 to 31 days, variable per program)
  - CUSTOM (weekly schedule variable per program)

Electrical Specifications

- Input required: 117VAC ± 10%, 60Hz (International models 230VAC ± 10%, 50/60Hz)
- Output: 26.5VAC, 1.5A
- Diagnostic circuit breaker skips and indicates stations with overloaded circuits and continues to run operable stations
- Overload, backup fuse: 1.5A SLO-BLO
- Battery backup: 9V Ni-Cad rechargeable battery (included) for programming under battery power and maintaining current time and date during power outages
- Station Capacity: Up to two 24VAC, 7VA solenoid valves per station plus a master valve or pump start relay
- Terminal strips for up to #12UF wire
- Electrical surge protection: Primary input side has built-in MOV (metal oxide varistor) to protect microcircuitry; output side has two built-in MOVs and one inductor for each valve station

Dimensions

- Width: 9½" (24,1 cm)
- Height: 10¼" (26 cm)
- Depth: 4⅜" (11,1 cm)

Models

- ESP-6LX Plus: 6 stations, indoor/outdoor*
- ESP-8LX Plus: 8 stations, indoor/outdoor*
- ESP-12LX Plus: 12 stations, indoor/outdoor*
- ESP-16LX Plus: 16 stations, indoor/outdoor*
- ESP-20LX Plus: 20 stations, indoor/outdoor*
- ESP-24LX Plus: 24 stations, indoor/outdoor*
- ESP-8LXi Plus: 8 stations, indoor
- ESP-12LXi Plus: 12 stations, indoor
- ESP-16LXi Plus: 16 stations, indoor

** Also available in 230VAC*

ESP-LX Modular Series

8, 12, 16, 20, 24, 28, 32 Stations
Indoor or Outdoor for Residential and Commercial Use

NEW

- **Flexible.** Ideal for the most straightforward installation or for more complex installations requiring custom programs for up to 32 stations.
- **Reliable.** Inside and out, this controller is designed to virtually eliminate callbacks.
- **Easy to Use.** Industry-leading Extra Simple Programming and large display make programming a snap.

● ESP-LX Modular Controller

● 8-station and 4-station modules

Features

- Eight station base model with the capacity to expand up to 32 stations in increments of 4 or 8 stations.
- Hot swappable modules can be installed in any position while the controller is in operation.
- ESP Programming: Extra-Simple Programming with self-prompting large alphanumeric dot matrix display makes this controller easy to program, read, and understand.
- Spacious heavy-duty key-locking cabinet (NEMA 3R rated) with internal junction box provides lots of room for wiring for a clean and professional looking installation.
- Removable, battery-programmable panel for the convenience of both programming instruction and programming prior to installation.
- Four independent programs (A, B, C, and D-drip), with eight start times each allow mixed irrigation applications in a single controller.
- D-drip program can run simultaneously with program A, B, or C to maximize hydraulic capacity and minimize watering time.
- 365-day calendar with leap year intelligence for one-time date and time setting.
- Five cycle modes (CUSTOM, CYCLICAL, ODD, ODD31, or EVEN) selectable by program for maximum flexibility and watering restriction compliance.
- Calendar-Day-Off option to set any day of the month as a non-watering day for all programs (in any cycle mode) accommodates special occasions and unique watering ordinances.
- Contractor Default™ function to save a a customized default program which can be easily accessed at a later date. Delayed recall feature to set the day (up to 90 days later) on which the controller will automatically restore the saved program. This is useful in reloading a schedule that has been altered or in replacing a temporary schedule for new seed or sod.
- User-selectable languages: English, Spanish, French, German, Italian, Portuguese, and Chinese (optional).
- Seasonal adjustment available by program and by month, up to 300%.

- Programmable rain delay enables system to stay off for a specified period with an auto-restart.
- Readily accessible manual watering function (right on the dial!) to operate a single valve, several valves, or an entire program. Manual watering operation will not alter the programmed watering schedule.
- Programmable Valve Delay to allow for water well recovery or time for slow-closing valves to turn off.
- Cycle+Soak™ by station allows total irrigation time to be split into usable cycles, minimizing runoff.
- Master valve/pump start circuit, programmable by station, for optimal irrigation control.
- Dedicated sensor terminals allow the user to easily connect a sensor to the controller for maximum water efficiency.
- Sensor bypass switch allows the user to override an active sensor.
- Sensor override function allows the user to override an active sensor by station.
- Built-in diagnostic functions let you confirm program information, calculate total program and valve run times, and run a test program that operates all system valves in sequence.
- Diagnostic self-setting circuit breaker identifies a valve or wire fault and continues to water operable stations.
- Enhanced Diagnostic Feedback™ alerts the user to programming errors and other conditions that may render a schedule inoperable. Externally visible light is illuminated and an appropriate text message is displayed.
- RASTER™ Wiring Test diagnoses field wiring and solenoid problems quickly and easily.
- Lithium battery maintains date and time during a power outage for ten years.
- Non-volatile program memory (100 year life) maintains user's program during a power outage independent of the battery backup.
- Compatible with the Rain Bird IQ™ Central Control system.

Operating Specs

- Station timing: 0 to 12 hours for all stations (0 to 120 minutes selectable in 1-minute increments; above 120 minutes selectable in 10-minute increments).
- Automatic Starts: 8 start times per program on the quarter hour for up to a total of 32 start times per day if using all four programs.
- Independent programming schedule options variable per program: CUSTOM day-of-the-week, ODD day watering, EVEN day watering, and variable day cycle from 1 to 31 days.

Dimensions

- Width: 14.32 in. (36,4 cm)
- Height: 12.69 in. (32,2 cm)
- Depth: 5.50 in. (14,0 cm)

Electrical Specifications

- Input required: 120 VAC ± 10%, 60Hz (International models: 230 VAC ± 10%, 50Hz; Australian Models: 240 VAC ± 10%, 50Hz)
- Output: 26.5 VAC 1.9A
- Power back-up: Lithium coin-cell battery maintains time and date while non-volatile memory maintains the schedule
- Multi-valve station capacity: Up to two 24 VAC, 7VA solenoid valves per station plus a master valve

Models

Controller Base Models

- ESPLXMI: Indoor
- ESPLXM: Outdoor
- IESPLXM: International
- IESPLXMAUS: Australia
- IESPLXMCHI: China
- IESPLXMEUR: Europe

Modules

- ESPLXMSM4: 4-Station Module
- ESPLXMSM8: 8-Station Module

ESP-MC Series

8, 12, 16, 24, 28, 32, 36, 40 Stations
Outdoor controller for commercial use.

- ESP: Extra-Simple Programming with self-prompting large alphanumeric LCD display makes this controller easy to program, read, and understand.
- Surge protection and contamination-resistant design make the controller reliable and robust under extreme field conditions.
- Rapid Station Test Routine (RASTER™) enables the controller to diagnose and troubleshoot field wiring and solenoid problems quickly and easily.

● ESP-MC

● ESP-MC-SS

Features

- 12-hour watering duration for any or all stations to aid in drip compatibility
- Four independent programs, with eight start times each, allow mixed irrigation applications in a single controller
- Two master valve/pump start terminals, one programmable by station, to provide better irrigation control
- All programs can overlap to maximize hydraulic efficiency and minimize watering time
- 365-day calendar with leap year intelligence for one-time date and time setting
- Event-Day-Off option to set any day of the month as a non-watering day for all programs
- Programmable rain delay enables system to stay off for up to 99 days with auto-restart
- Upgradeable to Maxicom²® and SiteControl satellite
- Independent day cycle by program
- Water budget by program provides adjustments from 0 to 300% in 1% increments (up to a maximum run time of 16 hours)
- Rain Bird's exclusive Cycle+Soak™ by station allows the total station run time to be split into usable cycles, minimizing puddling and runoff
- Programmable Delay-Between-Stations provides time for water well recovery, or time for slow-closing valves to turn off completely
- Manual watering by station or program
- Sensor inputs and override switch with LED to indicate when irrigation is suspended by the sensor
- Non-volatile memory maintains the irrigation schedule for up to 100 years during a power outage
- Lithium battery maintains the time and date for over 10 years during a power outage
- Diagnostic circuit breaker identifies electrical shorts, provides a "FAULT" message on the LCD screen, skips shorted stations, and continues irrigation cycle

- Mounting plate and mounting bracket provide fast, secure, vandal-resistant installation
- Quick-connect terminal strip for fast installation
- Universal remote ready: includes pre-installed connectors for addition of remote products
- Heavy-duty transformer for simultaneous operation of up to nine 24VAC, 7VA solenoids
- Removable, battery-programmable front panel for the convenience of both programming instruction and programming prior to installation
- Available in 2 enclosures:
  - Powder coated wall-mount metal cabinet
  - Stainless Steel Pedestal

Operating Specifications

- Station timing: A, B, C, D - 0 to 2 hours in 1-minute increments; - 2 to 12 hours in 10-minute increments
- Automatic starts: 32 starts total, eight per program per day
- Programming schedule:
  - ODD day watering (per program)
  - EVEN day watering (per program)
  - CYCLICAL (1 to 99 days, variable per program)
  - CUSTOM (day-of-the-week by program)
- Test program: Variable 1 to 99 minutes
- Rain Delay: Programmable 1 to 99 days

Electrical Specifications

- Input required: 117VAC ± 10%, 60Hz (International models: 230VAC ± 10%, 50Hz)
- Output: 26.5VAC, 2.5A
- Station load capacity: Up to two 24VAC, 7VA solenoid valves per station plus a master valve or pump start relay
- Diagnostic circuit breaker skips and indicates stations with overloaded circuits
- Power supply overload, backup fuse: 3.0 Amp SLO-BLO
- Battery backup: 9VDC, Ni-Cad rechargeable for programming under battery power and for maintaining active program-in-progress during a power outage
- Heavy-duty electrical surge protection for both input power and field outputs
- UL Listed; CSA, CE, C-Tick approved

Dimensions

Steel Wall-mount

- Width: 11 5/16" (28,7 cm)
- Height: 11½" (29,2 cm)
- Depth: 6½" (16,5 cm)

Stainless Steel Pedestal

- Width: 11½" (29,2 cm)
- Height: 30" (75 cm)
- Depth: 11½" (29,2 cm)

Optional Features

- Pedestal Mount (PED-DD16)

Models

- ESP-8MC: 8 stations
- ESP-12MC: 12 stations
- ESP-16MC: 16 stations
- ESP-24MC: 24 stations
- ESP-28MC: 28 stations
- ESP-32MC: 32 stations
- ESP-36MC: 36 stations
- ESP-40MC: 40 stations

Note: All models also available in 50Hz

Note: All models also available in a stainless steel (-SS) pedestal, except for international 230 VAC models

ESP-MC Quick Connect Terminal Strip

● ET Manager

ET Manager

The New Standard in Weather-Smart Irrigation.

NEW

- The Smart Choice – Converts a conventional irrigation system into a weather-smart one that adjusts itself according to accurate real-time weather data.
- ET Made Easy – Compatible with virtually any irrigation controller through the common wire regardless of the number of stations.
- Sustained Water Savings – Receives hourly (not just daily) wireless weather updates from local precision weather stations and allows watering only when needed.

Universal compatibility

- Compatible with virtually any irrigation controller through the common wire, regardless of the number of stations.
- Provides pulse output of ET to compatible controllers.

Easy to Use

- Large graphical LCD display makes the ET Manager easy to read, program and understand.
- Weather information and graphs are maintained from the last two weeks allowing quick viewing of rain, air temperature, wind speed, relative humidity and ET.
- At-a-glance display shows the current landscape moisture level for valve groups "A" and "B".
- Easy to use intuitive menu allows the user to quickly access programming and system information.
- "A" and "B" indicator lights let the user know whether watering will occur or not.
- An Override button allows the user to quickly override the ET Manager to permit manual watering.

Maximum Flexibility

- Programmable delays for rain, temperature and wind allows irrigation to be interrupted until adverse conditions change.
- Can receive signal to interrupt all irrigation for emergency management or drought restrictions.
- Two independent ET-based irrigation schedules to accommodate differing plant types (ex. turf and shrubs).
- Daily watering window allows non-ET-based controller programs to operate normally.
- Adjusts to any cycle mode (CUSTOM, ODD, ODD 31st OFF, or EVEN).
- Programmable landscape adjustment values based on plant type used to meet site specific watering needs.
- Compatible with Rain Bird WS Pro Weather Station as well as other weather station networks through custom integration.

Reliable Operation

- Power failure backup: A 9-volt alkaline battery is included to keep current time and date during a power outage.
- UL listed; CUL, FCC approved.
- User programmable 12-month historical ET database for backup in the unlikely event that the weather signal is interrupted.
- A yellow LED indicates "Attention" conditions the user should be aware of.
- Settings can be saved and later recalled for system restoration – "Contractor Default".
- Secure password protected system prevents unauthorized program changes.

Healthy Landscape Through Precision Irrigation

- Hourly weather data adjusts the soil moisture balance used to control the watering frequency to meet the actual water needs of the landscape – never over- or under-water again due to unpredictable weather.
- The programmable irrigation amounts correspond to the irrigation controller settings and are linked to the soil moisture balance to allow watering once soil moisture settings are reached.
- Optional tipping rain gauge can be used onsite to replace rain information from the weather station.
- Programmable effective rain settings, based on soil conditions, automatically limit the amount of rain used in the soil moisture balance.

Save time and money

- Quick and easy installation allows users to realize savings and benefits faster.
- Information log reports the date and time of the last watering, number of times watering occurred, and other events to track operation.
- Reduce water costs dramatically through sustained conservation.
- Reduce labor costs – scheduling changes are made automatically based on current weather conditions instead of manual seasonal adjustment.

Dimensions

Width: 5.6 inches (14,2 cm)

Height: 6.5 inches (16,5 cm)

Depth: 2.0 inches (5 cm)

Weight: 15 ounces (435 g)

Programmable schedule options

Available watering days can be limited to accommodate site needs. The look-ahead feature may allow watering the day before a non-available watering day.

1. ODD day watering (per program)
2. EVEN day watering (per program)
3. CUSTOM (weekly schedule)
4. ODD 31st off (per program)

Electrical Specifications

- Power Supply: 12 to 30 Volts AC or 12 to 35 Volts DC
- Operating Temperature Range: 5° F - 149° F (Radio reception operating temperature: 32° F - 122° F)
- Terminal Wire Gauge: 14 to 26 awg
- Ground Lug Wire Gauge: 10 to 18 awg
- Serial Communication: TTL 1x6 Header
- Optional External Antenna Connection: BNC Female, 930 MHz, 50 ohm
- Rain Gauge Sensor Voltage: 3.3 Volts DC
- Battery Backup: 9-volt alkaline battery included for programming under batter power and maintaining program current time and date during power outages
- Three year warranty

Optional Accessories

ETMi-ANT: ETMi Remote Antenna Kit*

ETM-RG: Tipping Rain Gauge

ETM-WRSS: Weather Reach Server Software

ETM-PS: ET Manager Programming Software

ETMi-OE: ETMi Outdoor Enclosure

ETMi-TRAN: 120 Volts AC Plug-in Transformer-635640

* ET Manager has a built in antenna. Locations with a weak paging signal may require an external antenna.

Models

ETMi: ET Manager Control Device, indoor model only

EASY RAIN™

For Residential and Light Commercial Use

- Water proof (IP-68 rated), submersible to 3.3 feet (1 meter).
- Quick, cost-effective irrigation controller solution for watering power-restricted or isolated sites. Also ideal for highway medians, drip zones, greenhouses, or for provisional operation, test and repair of AC powered irrigation systems when power is not available.
- Multiple scheduling options even allow a soak time between double cycles.

Features

- Operates with any top-grade 9V alkaline battery for applications with no AC power supply (Duracell™, Energizer™, etc.)
- Factory pre-wired with a DC latching solenoid in a plastic adapter which hand-screws onto most Rain Bird valves for quick and easy out-of-the box installation
- Program module mounts directly on solenoid adapter for easy installation
- Pre-wired cable, over 20 inches (50,8 cm) long, allows programming outside of valve box
- One programming knob to access all functions for programming ease
- Choice of 6 calendars and cycles for scheduling flexibility
- Choice of 7 run times for diverse watering requirements
- Soak time (4 hours) between the double cycles (2X) for special terrain and applications
- Easy-to-use manual start/stop function
- Standby function prevents unnecessary irrigation during rainy weather
- Resin-encased electronic components, silicone-filled cavities, and waterproof battery compartment with screw-on cap allow operation even in flooded valve boxes
- Incorporates TBOS™ (formerly UNIK™) technology for field-proven reliability
- Handy "Cycle Indicator" reminds you of the calendar/cycle selected in the controller's program
- Water-proof quick reference instruction card permanently attached to unit to aid in programming.

Operating Specifications

- Valve capacity: 1
- Valve compatibility: Rain Bird DV, DVF, JTV, JTVF, ASVF, PGA, PEB, PESB, GB, EFB-CP, BPE and BPES valves
- Start time: Selectable from 0, 2, 4, 6, 8, 10, or 12 hours after battery installation
- Calendar (Cycles): Single cycle every 24 hours (1X 24h); Single cycle every 48 hours (1X 48h); Single cycle every 72 hours (1X 72h); Double cycle every 24 hours (2X 24h); Double cycle every 48 hours (2X 48h); Double cycle every 72 hours (2X 72h)

Note: Double cycle equals full run time, 4-hour soak, full run time again

- Run times: 2, 5, 10, 15, 30, 60, or 90 minutes

Note: Under double cycle (2X) calendar, total watering time is twice the run time for a maximum of 180 minutes

- Soak time: 4 hours (between double cycles (2x) only)
- Default program: The controller will irrigate for the selected run time indicated by the programming dial every day starting 8 hours after battery installation if the controller has been programmed incorrectly. The default program will only run if the programming dial is positioned on a run time
- Maximum operating pressure: 150 psi (10 bar)
- Battery life: One year with top-grade alkaline battery (battery not included)
- Three year warranty

Electrical Characteristics

- Power: 9V alkaline battery (international 6AM6 standard or European 6LR61 standard, for example: Duracell™, Energizer™, etc.)

Dimensions

- Height: 5⅛" (12,8cm)
- Width: 2⅛" (5,5 cm)
- Depth: 3¾" (9,5 cm)

Model

- EASY RAIN

● EASY RAIN

TBOS™

Battery-operated controller for commercial use.

- The TBOS battery-operated line of buriable controllers allows the use of automatic irrigation in the absence of AC power.
- Rugged case, inside valve box installation, and separation of the transmitter from the control module avoid vandalism and tampering with your programs.
- IP-68 rated waterproof case assures reliable operation under water and safeguards your investment.

Features

- Ideal for commercial applications, including municipal parks, street and highway landscape projects and construction projects
- Convenient temporary option for providing uninterrupted irrigation while repairs are made to an AC-powered system
- 365-day calendar (adjusts for leap year)
- AM/PM or 24-hour display
- Run time from 1 minute to 12 hours in 1-minute increments
- Basic programming (standard mode) includes 3 independent programs on a 7-day program cycle
- Additional cycles (turbo mode) include even, odd, odd-31 and 1-6 day program cycles for maximum flexibility
- 8 start times per program per day
- Low battery indicator warns of failing batteries in the TBOS field transmitter or TBOS control module
- Independent station operation allows simultaneous start times or sequential start times based on system hydraulic capacity
- The TBOS field transmitter has a large Liquid Crystal Display (LCD) with self-explanatory function icons. Each function is indicated by an easy-to-understand symbol
- The 7-key keypad is equipped with a "beep" sound to confirm that a key has been pressed for fast and sure programming
- One TBOS field transmitter programs an unlimited number of TBOS Control Modules
- Field transmitter and control module have external optical connectors for easy plug-in
- It is possible to transmit information even if the module is under water
- TBOS potted latching solenoid is compatible with all Rain Bird valves in the DV, DVF, ASVF, PGA, PEB, PESB, GB, EFB-CP, BPE and BPES series
- The TBOS solenoid adapters will adapt the potted latching solenoid for use in retrofit applications with selected Irritrol® (Hardie/Richdel) and Buckner® valves or Champion® and Superior® valve actuators

TBOS Control Module

- Available in 4 models: 1, 2, 4, and 6 stations
- Operates one valve per station
- Station timing: 1 minute to 12 hours in 1-minute increments with a 365-day calendar. Stations are assigned to a single program
- Active sensor connection accommodates Rain Bird® RSD-BEx Rain Sensor
- Operates with only one 9V alkaline battery (Energizer™ and Duracell™ are recommended) type 6AM6 (international standard) or 6LR61 (European standard): battery not included
- Battery life is one year with a high-quality 9V alkaline battery
- IP-68 rated waterproof case for reliable operation under water
- Dimensions: 3¾ x 5⅛ x 2 inches (9,5 x 13,0 x 5,3 cm)
- Weight: 17.64 ounces (500 g)
- Maximum wire run between the module and solenoid:

Wire Size (AWG)	18	16	14
Maximum Distance (ft)	32	50	80
Wire Size (mm^2)	0,75	1,5	2,5
Maximum Distance (M)	10	15	24

- C-Tick approved

TBOS Field Transmitter

- Field transmitter required for programming control module
- Dimensions: 3½ x 7½ x 1⅞ inches (9,0 x 19,0 x 4,5 cm)
- Weight: 7.05 ounces (200 g)
- Operating temperature: 32° to 140° F (0° to 60° C)
- C-Tick approved

TBOS Control Module and Field Transmitter

TBOS (continued)

TBOS Potted Latching Solenoid

- Two 18 gauge (0,75 mm2) wires are supplied: 23.6 inches (60 cm) long
- Fits Rain Bird valves: DV, DVF, ASVF, PGA, PEB, PESB, GB, EFB-CP, BPE and BPES series
- 150 psi (10 bar) maximum operating pressure
- Dimensions: 1⅜" x 2⅜" x 1½" (4,0 cm x 6,0 cm x 4,2 cm)

TBOS Solenoid Adapters

- Easy to install
- Black adapter for plastic valves allows the TBOS potted latching solenoid to be used with selected Irritrol (Hardie/Richel) and Buckner valves
- Brown adapter for brass valves allows the TBOS potted latching solenoid to be used with selected Champion and Superior valve actuators

Models

- TBOSFTUS: Field Transmitter
- TBOS1CMUS: 1-Station Control Module
- TBOS2CMUS: 2-Station Control Module
- TBOS4CMUS: 4-Station Control Module
- TBOS6CMUS: 6-Station Control Module
- TBOSPSOL: Potted Latching Solenoid
- TBOSADAPP: Solenoid Adapter for plastic valves
- TBOSADAPB: Solenoid Adapter for brass valves

TBOS™ Rain Shut-Off Device

Features

- Measures the moisture level in the site area where it is installed in sand outside the irrigated area
- Prevents irrigation as soon as the area has sufficient water to meet plant needs
- Does not interrupt irrigation taking place, but subsequent program starts are prevented
- Automatic return to normal watering schedule when the soil moisture level decreases as a result of natural evaporation
- Comes with an easy-to-install ON/OFF switch to allow deactivation of the rain shut-off device during system maintenance
- ON/OFF switch slides onto the mounting bracket on top of the TBOS Control Module

Operating Specifications

- Valve compatibility: operates with valves equipped with the TBOS Latching Solenoid
- Controller compatibility: operates with TBOS and UNIK™ Control Modules
- Must be installed outside the irrigated area or in the last irrigated zone

Dimensions

- Width: 3⅐" x 1⅞" x 1⅘" (8,0 x 4,5 x 4,6 cm)

Model

- TBOSRAINSO: Rain Shut-Off Device

● TBOS Potted Latching Solenoid

● TBOS Solenoid Adapters

● TBOS Rain Shut-off Device

RSD-BEx / RSD-CEx

Rain Sensor

Features

- Multiple rainfall settings from ⅛" to ¾" (5-20 mm) are quick and easy to adjust with just the twist of a dial
- Adjustable vent ring helps control drying time
- High-grade, UV-resistant polymer body resists the elements
- Choose between rugged aluminum 5" bracket version (RSD-BEx) or conduit version (RSD-CEx) for a clean and professional look.
- 25 feet (7,6 m) of UV resistant extension wire offers an easy connection to irrigation controllers
- UL and cUL listed; CE approved
- Five-year "No Hassle" warranty

Specifications

- Works with all popular 24 VAC controllers and 24 VAC pump start relays.
- Suitable to switch up to ten 24 VAC, 7 VA solenoid valves per station, plus one master valve.
- Wire: 25' (7,6 m) of 20 AWG two-conductor extension wire.
- Short lead for normally open (N.O.) installations.

Dimensions

- Overall Length: 6.5" (16,5 cm); Overall Height: 5.4" (15,7 cm)
- Bracket hole pattern (RSD-BEx model): 1.25" (3,2 cm)

Models

- RSD-BEx: rain sensor with aluminum bracket.
- RSD-CEx: rain sensor conduit mount.

RSD-BEx

Rain Check™

Automatic Rain Shutoff

Features

- Adjustable stainless steel sensing probes offer the flexibility of triggering the rain shutoff with as little as ⅛" (3,2 mm) of precipitation.
- Water in the rain collector pan evaporates faster than soil moisture to permit watering if required.
- Electronic design eliminates micro switches and water absorbing disks which may rust and/or wear out.
- UV resistant plastic construction increases operating life in harsh environments.
- Works with almost all 24 VAC controllers for maximum versatility.

Specifications

- Input required: connects to valve common wire.
- Fuse: 3 A.
- Collector pan can be removed for cleaning.
- Multi-valve capacity: Up to three 24 VAC solenoid valves per station.
- Not recommended for use with direct acting (non-flow switch) pump start relays.

Dimensions

- Length: 8" maximum (20,3 cm)
- Height 4" maximum (10,2 cm)
- Width: 2½" maximum (6,4 cm)

Model

- Rain Check

Rain Check

RELAY-100, R-200

Pump Start Relays

Features

- R-200 uses trusted Square-D technology; RELAY-100 uses reliable OMRON relays.
- ½" and ¾" knockouts sized to accept conduit.
- Metal plate separates Hi and Low voltage wires.
- UL approved, NEMA type 3R rainproof (outdoor or indoor mount).
- Pre-installed 2 low voltage and 4 high voltage lead wires. 6 wire nuts included.

Specifications

- **RELAY-100:**
  - Coil Operating Voltage: 24 VAC
  - Contact Rating:
    1 HP @ 110 VAC
    1.5 HP @ 240 VAC
    20 amps at 240 VAC
  - Coil Input Rating: 26.5 VAC maximum @ 0.175 amps
- **R-200:**
  - Coil Operating Voltage: 24 VAC
  - Contact Rating:
    2 HP @ 115 VAC
    5 HP @ 230 VAC
    30 amps at 230 VAC
  - Coil Input Rating: 26.7 VAC maximum @ 0.256 amps

Models

- RELAY-100: Pump start relay for up to 1½ HP motors
- R-200: Pump start relay for up to 5 HP motors

● **R-200**

Pigtail

Features

- 6-feet (1,8 m) long
- Three 16 gauge stranded conductor wires
- 90 degree molded plug type Nema 5-15P
- Gray color

Model

- PIGTAIL

● **PIGTAIL**

CB-C, CB-Romex

Conduit Body

Features

- Outdoor, wet location use
- Powder-coated die cast aluminum body, neoprene gasket
- ½" (15/21) female threaded inlets
- Strain relief connector available

Specifications

- UL approved

Model

- CB-C: Conduit Body, Type C
- CB-Romex: Strain relief connector for conduit body

● **CB-C**

PED-DD16

Pedestal for ESP-MC, ESP-SAT, and CCU in metal cabinets

Features

- Includes all necessary mounting bolts, nuts, and washers

Specifications

- Material: Epoxy-painted steel
- Field wiring connection: In controller

Dimensions

- Height: 23½" (59,7 cm)
- Width: 10½" (26,7 cm)
- Depth: 5" (12,7 cm)

Model

- PED-DD16

● PED-DD16 shown with ESP-12MC

ESP Modular Programming Sheets and Wallet Card

(Basic Programming and Hidden Functions)

These one-page laminated reference sheets are great for contractors new to programming ESP Modulars as well as for contractors that need a quick reminder on how to use all of the hidden functions of the ESP Modular. They are laminated to travel well, and both sheets include information in both English and Spanish. The basic programming sheet includes information such as: setting date, time, watering times, watering cycles, valve run times, and Contractor Default™ program. The Hidden Function sheet includes information on the Contractor Default™ program, Auxiliary Station operation, programmable delay between stations, event day off, and pump/master valve operation.

How to Order:

- ESP Modular Controller Progamming Sheet - D39689
- ESP Modular Controller Programming Sheet (Hidden Functions) - D39703
- ESP Modular Controller Hidden Functions Quick Reference (wallet card) - D39664

● ESP Modular Controller Progamming Sheet

● ESP Modular Controller Programming Sheet (Hidden Functions)

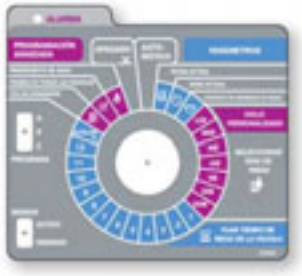
● ESP Modular Controller Hidden Functions Quick Reference

ESP Modular Spanish Overlay

This is a great tool for Spanish speaking controller installers. The temporary overlay can be placed over the face of the ESP Modular by removing the dial. Once programming is completed, the overlay is removed, the dial is replaced, and you are ready to go. The temporary Spanish overlays are laminated so they travel well and can be re-used.

How to Order:

- ESP Modular Spanish Overlay - D39686



Controller Solutions Brochures

Available in English and Spanish these brochures are a great tool for troubleshooting common controller issues. They include instructions for 5-minute quick tests that can solve common microprocessor lock-up issues, checking for short circuits, checking backup batteries, and more.

How to Order:

- Controller Solutions Brochure (English) - D37259A
- Controller Solutions Brochure (Spanish) - D37267A

● Controller Solutions brochure (English)

Right Choice in ESP Modular Controllers Sales Brochure

Features

- Used by contractors when recommending ESP Modular Controllers to homeowners
- Size is 8½" wide and 11" high
- 3-hole punched; Packs of 50
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Reference no. D39502A

Right Choice in ESP-TM Controllers Sales Brochure

Features

- Used by contractors when recommending ESP-TM Controllers to homeowners
- Size is 8½" wide and 11" high
- 3-hole punched; Packs of 50
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Reference no. D39505A

Right Choice in Ec Controllers Sales Brochure

Features

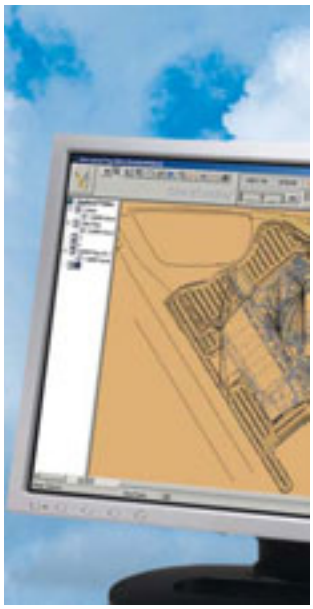
- Used by contractors when recommending Ec Controllers to homeowners
- Size is 8½" wide and 11" high
- 3-hole punched; Packs of 50
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Reference no. D39707

Right Choice in RSD Rain Sensors Sales Brochure

Features

- Used by contractors when recommending RSD Rain Sensors to homeowners
- Size is 8½" wide and 11" high
- 3-hole punched; Packs of 50
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Reference no. D39504

Central Controls



Who better to trust than the people who pioneered central irrigation control?

Rain Bird continues to advance technologies that make it possible to efficiently manage irrigation for a single site or set of sites from one location. Systems automatically measure and react to actual site conditions, optimizing landscape quality and saving valuable resources. This is ultimate control. And everything is accomplished from one central location. That's sophisticated simplicity. That's the trusted performance of Rain Bird® central control. For 30 years, Rain Bird has delivered central control systems designed to meet the needs of customers all over the globe.

Install Confidence®
Install Rain Bird® Central Control.

Major Products

Primary Applications	IQ™	MDC	SiteControl	Maxicom²®
Multi-Site Central Control	●			●
Single Site Central Control		●	●	
Satellite Controller System	●		●	●
Two-Wire Decoder System		●	●	
Hybrid Satellite/Decoder System			●	
Features				
Computer Programming	●	●	●	●
Computer Monitoring	●	●	●	●
Computer Manual Operation	●		●	●
Interactive Map Interface			●	
ET Programming	●		●	●
Automatic ET Adjustment			●	●
Programming Dry-Run	●		●	●
Flow Management		●	●	●
Flow Monitoring		●	●	●
Search/Eliminate Problem Flow				●
High Flow Shut-off	●	●	●	●
Low Flow Shut-off				●
Rain Watch™			●	●
Rain Shutoff	●	●	●	●
Cycle + Soak™	●		●	●
Hardware				
CCU - ESP-SAT Interface				●
TWI - ESP-SAT Interface			●	
SDI/LDI - Decoder Interface			●	
MDC-50-200 Decoder Controller		●		
Two-Wire Field Decoders		●	●	
ESP-Satellite			●	●
ESP-Site -Satellite				●
ESP-LX-Site –Satellite				●
ESP-Sat Module Kit			●	●
ESP-Site Module Kit				●
LXM-DTC Satellite	●			
U-DTC-LXM Upgrade Kit	●			
Link Radio Kit			●	●
Freedom Remote Control			●	●
Sensor-Pulse Decoders		●	●	●
Rain Shut-off Device	●	●	●	●
Soil Moisture Sensor	●	●	●	●
Flow Sensors	●	●	●	●
Weather Station			●	●
Rain Gauge			●	●
Anemometer	●	●	●	●

About Central Control Systems

Irrigation central control is computer-based and enables the programming, monitoring and operation of an irrigation system from a central location. Central control systems are designed to allow a single site (college campus, corporate headquarters) or a set of sites (school district, parks and recreation department) to control all their irrigation from one central computer. Central control can monitor and automatically adapt system operation and irrigation run times in response to conditions in the system and surrounding area (weather change, pipe breaks, etc) as well as parameters defined by the operator.

Rain Bird Central Control

Rain Bird developed the original computer based central control system in the 1970s and today has thousands of systems installed worldwide.

Satellite Controllers and Field Decoders

Rain Bird offers a variety of systems to match the needs of the customer, budget, site or application. Select from systems designed specifically for single sites, multiple sites, small or large. Rain Bird central control systems can utilize satellite controllers, two-wire decoders, or a combination of both.

Key Features

Centralized Programming

A central control system allows programming from a single computer location, saving the time and money usually spent traveling to the controllers. Program changes to multiple controllers across multiple sites can be made in just minutes. Irrigation runtimes can automatically be adjusted with the addition of a weather station or sensors.

System Communication

Communication options between the central computer, irrigation controllers, decoders, sensors and weather stations can include hardwire, direct-connect, phone, cellular, radio, fiber-optics, Ethernet, and Wi-Fi.

System Operation and Monitoring

The central control system monitors itself and can make use of flow, rain, wind, moisture and other sensors to adjust operation or take action in real time. System operational logs and any alarms for problems that occur are communicated back to the central computer, where reports can be generated.

Rain Bird Multi-Site Central Control Systems

IQ™

IQ offers a simple, easy to learn software program and modular hardware for control of individual satellite controllers across multiple sites. IQ includes many water and time saving features that eliminate the need to travel to the site to reprogram or monitor the irrigation system. IQ is the ideal tool for residential or light commercial applications.

Maxicom²®

Maxicom² is a feature packed irrigation management tool for control of multiple, small to large, remote irrigation systems. Maxicom² offers superior water management features utilizing satellite controller technology. Maxicom² is the tool of choice for water managers, park and recreation departments, school districts and theme parks worldwide.

Rain Bird Single Site Central Control Systems

MDC

MDC offers unmatched expandability in an inexpensive, two-wire decoder based system that provides fast and easy installation. MDC software allows remote programming and system monitoring. MDC is ideal for commercial locations, condominium or apartment complexes, and other sites where ease of expansion is critical.

SiteControl

SiteControl offers powerful central control features for single, large, contiguous sites. SiteControl provides interactive map-based control and real-time communication between the field and the central computer. It can control two-wire decoders, satellite controllers or both for unmatched expandability and flexibility. SiteControl is ideal for property developments, sports field complexes, shopping malls, cemeteries, resorts and hotels.

IQ Home Screen

IQ™ Central Control Software

Multi-Site Central Control for Smaller Sites

NEW

- Easy to learn software that's simple to use.
- Modular system can grow with your needs.
- Water management tools save you time and water.

Features

- Central control software ideal for multiple small to medium size, single controller irrigation sites.
- Make programming changes, monitor a site or do anything you could do standing at an ESP-LX Modular controller remotely from your PC.
- System capacity 25 sites/250 total controllers.
- Multiple communication options including phone, cellular, Ethernet, Wi-Fi, radio, fiber optics, and direct connect.
- Software installs on your Windows computer.
- Software designed with an easy to navigate, graphical user interface.
- User defined sites (groups of satellite controllers with common adjustments).
- Site level Auto/Off, Seasonal Adjust/ET, Rain Delay, and Calendar Day Off settings
- Individual Program Adjust %.
- Daily or Monthly Seasonal Adjust %.
- Daily or Monthly ET Adjustments.
- Dry-Run program review screen with Water Window and max. flow indicators graphically show the net result of your programming.
- Site logs, warnings/alarms, and runtime reports.
- Manual operations features include manual station, program, test program, RASTER™ Diagnostic Test, advance and cancel.
- Satellite controller firmware can be re-flashed from the central computer.
- Override Auto/Off dial position, Active/Bypass sensor switch positions from central computer.
- IQ-DTC-DCC Direct Connect Communication Cable included in software package

Minimum computer requirements

- Windows XP-Professional SP2
- Pentium 1.8 GHz processor
- 512MB RAM memory
- 200 MB free hard drive space
- CD-ROM
- Computer not included with software package

GSP Features

- Software includes six-month GSP (Global Support Plan)
- Toll-free phone support
- Emergency hardware replacement

LXM-DTC Satellite Controller

8 to 32 Stations
IQ™ Central Control System

NEW

- Modular design for ultimate versatility.
- Single enclosure simplifies installation.
- Review, modify programming at the satellite.

Features

- Program, monitor remotely from IQ™ Software.
- Factory installed DTC-LXM Direct-To-Central communication interface cartridge (snaps into back of faceplate).
- Multiple communication options including phone, cellular, Ethernet, WiFi, radio, fiber-optics, and direct connect.
- Plastic, locking, wall-mount enclosure.
- Large LCD display.
- Multiple language support.
- ESP (Extra Simple Programming) dial interface.
- Modular station capacity - 8 to 32 stations in 4-station increments (4 or 8-station modules)
- 4 independent programs (D program can be programmed to overlap ABC programs).
- Custom, Cyclical, Odd, Odd31, Even program day cycles with programmable week days off.
- 8 start times per program, 24 max. per station.
- 1 minute to 12 hour station run time.
- Program and station run time review.
- Seasonal adjust % by program
- Monthly seasonal adjust % automatically adjusts station run time each month of the year.
- Cycle+Soak™ by station.
- Sensor input programmable by station with master bypass switch.
- Master valve/pump start programmable by station.
- Programmable rain delay.
- Programmable delay between station by program.
- Manual station(s), program, test program operations.
- RASTER™ diagnostic test.
- Non-volatile program memory retains programming during a power outage.
- Electronic diagnostic circuit breaker.
- Alarm light visible through outer door.
- Satellite firmware reflashable from IQ Central.
- 6-pin remote port.
- Removable faceplate is programmable under battery power.

Operating Specifications

- Station timing: 0 to 12 hours; 0 to 120 minutes selectable in 1-minute increments; above 120 minutes selectable in 10-minute increments.
- Automatic start: 8 start times per program on the quarter hour for up to a total of 32 start times per day using all programs.
- Independent programming schedules: Custom, Odd, Odd31, Even, Cyclical with week days off.

Electrical Specifications

- Input required: 120VAC +/-10%, 60Hz; 230VAC +/-10%, 50Hz; 240VAC +/-10%, 50Hz.
- Output: 26.5VAC, 1.9A.
- Surge protection: Primary input – MOV; Secondary output – MOV, 1 per station.
- Power back-up: Lithium coin-cell battery maintains date/time; Non-volatile memory maintains programming.
- Multi-station capacity: Up to two 24VAC, 7A solenoid valves per station plus a master valve.

Dimensions

- Width: 14.32 in. (36,4 cm)
- Height: 12.69 in. (32,2 cm)
- Depth: 5.50 in. (14,0 cm)

LXM-DTC Satellite Controller

How To Specify

LXM - DTC - PR

Model
LXM: 120V Outdoor
LXMI: 120V Indoor
ILXM: 230V Outdoor
ILXMA: 240V Outdoor

Communication
PR: Phone+RS232
R: RS232 Only

MDC Decoder-Based Control System

Two-wire Decoder system with advanced control capabilities for single sites.

- Water management capabilities in a cost-effective, single site package.
- Decoders provide ease of installation and expansion flexibility.
- Upgradeable to SiteControl for full central control.

MDC-200 Controller

Features

- Solid-state design.
- Increase flexibility and confidence with UL listed, indoor/outdoor, modular decoder controller (MDC).
- Program and monitor MDC from a PC or laptop.
- Improve aesthetics and reduce costs with buried in-field controls.
- Protect against the elements with completely encapsulated electronic components.
- Utilizes less wire than conventional satellite systems in larger projects.
- Simple two-wire system, with equipment that can be spliced and stored during installation.
- Pre-coded decoder addressing eliminates confusion associated with switch-based addressing.
- Reduce chance of damage from animals or vandals using underground "switch boxes".
- Built-in electrical diagnostics, including decoder test and short circuit detection.

Controllers

Operating Specifications

- Maximum number of decoders: 50/100/150/200, depending on model selection and/or number of expansion modules.
- Maximum number of simultaneous valves: 10 irrigation valves (PEB, PGA, EFB-CP) + 1 non-irrigation valve.
- Programs: 10 + 1 auxiliary.
- Maximum number of simultaneous programs: 2+1 auxiliary.
- Irrigation methods: Steps.
- Days: 14, every X day (X=1-14).
- Start times: 6 per program.
- Start methods: Day and time start, every X day + first day.
- Pausing of programs: Yes.
- Run time: 0-999 minutes.
- Water Budget: 0-250%.
- MV/Pump Control: 1 master valve and 2 booster pumps.
- Manual operation: Individual decoders or programs.

How To Specify

MDC - 200

Model
MDC

Number of Addresses
50200: 50 addresses expandable to 200
200: 200 addresses
50D: 50 address expansion module

- Sensors: One direct sensor input: rain or alarm. Using sensor decoders, one flow and one switch sensor can be installed anywhere on the line.
- Test: Built-in electrical diagnostics
- Monitoring: Active decoders shown with remaining time, all actions logged in memory. Log has 1500 action capacity.
- Field Transmitter: Optional
- MDC controller includes programming and monitoring software, and serial cable.
- Phone modem and RS232 communication ports come standard
- Detection and alarming of high flow conditions with flow sensor.

Electrical Specifications

- Input voltage: 120V / 60Hz ±10%
- Output voltage: 34Vpp (24V AC)
- Overload protection: Electronic
- Grounding: All MDC's shall be grounded to 10 ohms or less earth ground.

Models

- MDC-50-200 – Controls up to 50 decoders; expandable up to 200 decoders in increments of 50 modules using MDC/M50D
- MDC-200 – Controls up to 200 decoders
- MDC/M50D – expansion modules for MDC-50-200; maximum 3 additional modules may be used on the MDC-50-200

Accessories

- FT-210/B Field Transmitter for field operation of the system; includes bag
- FTB-250TURF Field Transmitter Connection Box
- CO-210/CA Socket for Field Transmitter / Cabinet Mounting
- CO-210/EX Socket for Field Transmitter / External Mounting
- CO-210/CO Cover for CO-210/CA and CO-210/EX
- DPU-210 Decoder Programming Unit for programming and testing decoders

GSP Features

- Each MDC comes bundled with six-month GSP (Global Support Plan)
- Toll-free phone support
- Emergency controller replacement

FD-TURF

Field Decoders - 1, 2, 4, 6 Addresses
SiteControl and MDC Decoders

- Easy, cost-effective installation and expansion for SiteControl Decoder or MDC system.
- Installed out of sight and protected from the elements and vandalism.
- Allow advanced diagnostic and sensor features.

Operating Specifications

- Mounting: In valve box or direct burial
- Solenoids:
  FD-101TURF: 1 with individual control
  FD-102TURF: 1 or 2 simultaneously
  FD-202TURF: 1 to 4 simultaneously
  FD-401TURF: 1 to 4 with individual control
  FD-601TURF: 1 to 6 with individual control
- Environment:
  Working range: 32° to 122° F (0° to 50° C)
  Storage range: -4° to 158° F (-20 to 70° C)
  Humidity: 100%

Electrical Specifications

- Power Draw:
  FD-101TURF: 0.5 mA (idle) 18 mA (per active solenoid)
  FD-102TURF: 0.5 mA (idle) 18 mA (per active solenoid)
  FD-202TURF: 1 mA (idle) 18 mA (per active solenoid)
  FD-401TURF: 1 mA (idle) 18 mA (per active solenoid)
  FD-601TURF: 1 mA (idle) 18 mA (per active solenoid)

FD-101 Decoder

How To Specify

FD - 101 - TURF

Application
TURF - for MDC or SiteControl

Decoder Type
101: Single Address (1 solenoid)
102: Single Address (up to 2 solenoids)
202: Dual Address (up to 4 solenoids)
401: Four Addresses (up to 4 solenoids)
601: Six Addresses (up to 6 solenoids)

Model
FD - Field Decoder

FD-TURF (continued)

- Wires:
  FD-101TURF: Blue to cable, white to solenoid
  FD-102TURF: Blue to cable, white to solenoid
  FD-202TURF: Blue to cable, white and brown to solenoids
  FD-401TURF: Blue to cable, color-coded to solenoids
  FD-601TURF: Blue to cable, color-coded to solenoids
- Surge Protection: Built-in (FD-401TURF & FD-601TURF only)
- Output Power: Adjustable from controller
- Encapsulation: Fully waterproof
- Address: Pre-coded from factory (i.e., no switches)
- Electrical Input:
  Nominal voltage: 34Vpp (24V AC) from 2-wire line
  Minimum voltage: 21 Vpp (15V AC)
- Standby Current:
  FD-101TURF: 0.5 mA
  FD-102TURF: 0.5 mA
  FD-202TURF, FD-401TURF & FD-601TURF: 1 mA
- Input Fuse (FD-401TURF & FD-601TURF only): 300-500 mA, thermal
- Electrical Output:
  Max. voltage: 33 Vpp
  Max. load:
  FD-101TURF: 1 Rain Bird solenoid
  FD-102TURF: 2 Rain Bird solenoids
  FD-202TURF: 4 Rain Bird solenoids (two per address)
  FD-401TURF: 4 Rain Bird solenoids (1 per address)
  FD-601TURF: 4 Rain Bird solenoids (1 per address)
- Maximum Cable Runs*:
  14 gauge Maxi Cable
  Star: 2.4 miles
  Loop: 9.6 miles
- Grounding:
  LSP-1 surge protection required every 500 feet along two wire path, grounded to a 10 ohm or less earth ground.
- Decoder/Solenoid Wires -
  Electrical Resistance:
  Max. 3 ohms
- Max. Distance Decoder/Solenoids:
  Cable length:
  14 gauge Maxi Cable: 456 feet
- Wiring:
  Maxi Cable, i.e. 2 x 14-gauge (1.5 mm2) solid copper, double jacketed, UF insulated type (10- or 12-gauge may also be used)
- Surge Protection: 40 V, 1.5 kW transil

Note: Rain Bird specifies using waterproof connectors for all connections.

**These distances are meant to provide general guidelines. Specific performance will also be affected by system design.*

Dimensions:

- FD-101TURF: Length: 2.77 in. (70 mm), Diameter: 1.5 in. (40 mm)
- FD-102TURF: Length: 3.35 in. (85 mm), Diameter: 1.77 in. (45 mm)
- FD-202TURF: Length: 3.35 in. (85 mm), Diameter: 1.97 in. (50 mm)
- FD-401TURF: Length: 3.94 in. (100 mm), Diameter: 2.56 in. (65 mm)
- FD-601TURF: Length: 3.94 in. (100 mm), diameter: 2.56 in. (65 mm)

Models

- FD-101TURF Field Decoder interfacing signal line and one valve
- FD-102TURF Field Decoder interfacing signal line and valve or one pair of valves
- FD-202TURF Field Decoder interfacing signal line and 2 valves or 2 pairs of valves
- FD-401TURF Field Decoder interfacing signal line and up to 4 individual valves. Comes with built-in LSP-1.
- FD-601TURF Field Decoder interfacing signal line and up to 6 individual valves. Comes with built-in LSP-1.
- LSP-1TURF Line Surge Protection
- SD-210TURF Sensor Decoder interfacing signal line and analog or digital decoders**
- Relay-100 Pump Start Relay. Field decoder is required for operation.

*** Pulse transmitter (PT322 or PT1502) required for SiteControl two-wire decoder system*

DPU-210

MDC or SiteControl
Decoder Programming Unit

- Decoder Programming Unit tests and verifies operation of the MDC or SiteControl field decoders. Also allows for re-programming decoder addresses for maximum site set-up flexibility.

DPU-210

SiteControl

A Full-Featured State-of-the-Art Commercial Central Control System for Single Site Applications

- Interactive, map-based software is easy to use and provides real time decision making.
- Unparalleled communications flexibility with decoders and/or satellites.
- Advanced water management features maximize landscape conditions and water savings.

Basic Control Features

- From the SiteControl Central Controller, the irrigation system can be scheduled for days to water, run times, linking schedules, sensor starts, cycle and soak schedules, ET sensitized scheduling, etc.
- Interactive map allows for maximum control yet easy programming, monitoring and troubleshooting for operator.
- Verify programming down to station level with the intuitive dry run feature.
- Manual operation of system from central computer via direct manual access (DMA).
- Operation of non-irrigation applications such as lighting, security gates, fountains, pumps, sensors, etc.

Additional Features

Advanced Graphical Mapping

- Maps generated by GPS technology, AutoCAD or overhead photography recreate your site.
- Interactive mapping and on-screen graphics show your complete site with location of individual valves and sprinklers. Extensive status reporting is a click away.
- Map Utilities software module allows you to measure distances and areas from your map.

Hybrid system

- Expand your system with the purchase of the hybrid software module.
- Same system can operate satellites and/or decoders.

Smart Weather™

- Designed to take complete advantage of Rain Bird's most advanced line of weather stations.
- Track ET rates with a weather station and react to current weather conditions through logical sequential steps.
- Advanced warning system accepts user-defined sensor thresholds. System operator can be immediately alerted if thresholds are exceeded.

Automatic ET Features

- Automatically adjusts run times in relation to changes in evapotranspiration values.
- Minimum ET (patent pending) allows setting threshold for irrigation to occur, promoting deep watering.

RainWatch™ (patent pending)

- Provides rain shutdown and then adjusts runtimes based on measured rainfall.

Expanded System Capability

- Utilizes the most advanced software development tools in the industry. SiteControl offers excellent performance and software/hardware compatibility.
- New system architecture is designed to speed performance utilizing most current software operating system.
- System is modular. Buy only what you need; expand at a later date.
- Increase wire-path capacity by simply purchasing modules.

Remote System Control

- Take control of your system and operate SiteControl from anywhere on your site using the Rain Bird FREEDOM System. Available via phone, cellular phone or UHF radio.

SiteControl

SiteControl (continued)

Superior Monitoring and Programming

- Flo-Graph™ provides real-time graphics with individual station information presented in colorful charts.
- Flo-Manager™ balances system demands and maximum capacities with efficiency, helping to lower water demand, reduce system wear and tear, and save energy.
- Cycle + Soak.™ Better control the application of water on slopes and in areas with poor drainage.
- QuickIRR™ and SimpleIrr™. Quick and easy methods to build irrigation schedules and programs based on your parameters.
- Print Office feature prints all monitor log and site information in a clean and concise format for easy site monitoring and troubleshooting.
- SmartSensors™ allows monitoring flow and other conditions, as well as setting specific reactions selected by the user.

Other Features

- Water usage logs
- Station run time logs
- Posted & dry run logs
- ET spreadsheet
- Operates with all existing Rain Bird Central Control satellites
- PC anywhere32 included (for tech support)
- 1 year support plan included

Models

- SCON - Desktop Central Controller

Software Module Options

- Smart Weather
- Rain Bird Messenger (for Smart Weather)
- Automatic ET
- Hybrid Module
- Smart Sensor
- Map Utilities
- Freedom
- 8 Additional Locations
- Additional Wire-Path (2nd)
- Additional Wire-Path (3rd)
- Additional Wire-Path (4th)
- SiteControl Plus

GSP Features

- Toll-free phone support
- pcANYWHERE remote system diagnostics
- Extended warranty
- 24-hour hardware replacement
- Future upgrades to Maxicom² software at no charge
- Training credits
- Incident and other support

TWI Series

SiteControl only

- Allows real-time, two-way communication between SiteControl central controller and field satellites.
- Allows use of advanced in-field capabilities of ESP-SAT two-wire or LINK versions.
- Can be set up to grow with system.

Features

- TWI operates up to 28 satellites (maximum of up to 672 satellite stations), pulse decoders or sensor decoders per wire-path.
- Can be expanded to up to 112 ESP-SATs (maximum of up to 2,688 satellite stations), pulse or sensor decoders in a SiteControl system.
- TWI comes standard with one wire-path, upgradeable to 4 wire-paths with the purchase of the Additional Wire-Path module.
- SiteControl system can be set up to run up to 4 TWIs.
- UL-Listed. Indoor use.
- Wall Mount: drawn steel, seamless, cabinet with hinged front panel.
- Computer data path: RS-232 serial cable.

Electrical Specifications

TWI Hardwire

- Input required: 120VAC ± 10% @ 1.25A 60/50Hz or 220/230/240VAC ± 10% @ .5A 50/60Hz
- Output: 2 x 26.5VAC @ 0.9A 60/50Hz or 4 x 26.5VAC @ 0.9A 50/60Hz
- Circuit Breaker: NA (Autoresettable)

TWI Link

- Input required: 120VAC ± 10% @ 1.25A 60/50Hz or 220/230/240VAC ± 10% @ .5A 50/60Hz
- Output: NA
- Circuit Breaker: NA

Grounding

- All TWI's shall be grounded to a 5-ohm or less earth ground

Dimensions

- Width: 15½" (39,4 cm)
- Height: 12½" (31,7 cm)
- Depth: 6" (15,2 cm)

Models

- TWISAT
- TWISATL

TWI Interface

How To Specify

TWI - SAT

Satellite Data Path
SAT: Two-wire (hard wire)
SATL: MAXILink™ Radios

Model
TWI

LDI/SDI Decoder Interface Series

SiteControl only

- Allows real-time, two-way communication between SiteControl central controller and decoders.
- Connects the powerful capabilities of SiteControl with the ease of installation and security of a two-wire decoder system.
- System can be set up and expanded according to project needs.

Features

- Works with Rain Bird Turf field and sensor decoders (FD-101TURF, FD-102TURF, FD-202TURF, FD-401TURF, FD-601TURF, SD-210TURF).
- Two-wire communications path also allows advanced diagnostic and sensor features for the Central Controller.
- SDI (Small Decoder Interface) can interface with up to 200 decoder addresses and can activate up to 400 solenoids.
- LDI (Large Decoder Interface) can interface with up to 500 decoder addresses and can activate up to 1000 solenoids. Requires SiteControl Plus software module.
- SDI & LDI come standard with up to 4 wire-paths possible.
- Computer data path: RS-232 serial cable.
- Decoder data path: 2-wire Maxi cable.
- Wall Mount: heavy-duty, plastic, cabinet with a key-lock door.

Electrical Specifications

North America

- External transformer
- Input: 120 VAC ± 10% @ .59A 60Hz
- Output: 24VAC @ 2A 60Hz
- Circuit Breaker: NA (Autoresettable)
- UL listed. Indoor use.

International Recommended Specifications

(transformer not supplied)

(model: ISDITURF & ILDITURF)

- Input: 220, 230, 240VAC ± 10% @ 0.36A 50Hz
- Output: 24VAC @ 2A 50Hz
- CE listed. Indoor use.

Grounding

- MSP-1 surge protector for each wire path.
- All SDIs and LDIs shall be grounded to a 5 ohm or less earth ground.

Dimensions (LDI and SDI)

- Width: 9½" (24,1 cm)
- Height: 10¼" (26 cm)
- Depth: 4⅜" (11,1 cm)

Models

- SDITURF (w/ transformer)
- LDITURF (w/ transformer)

SDI Interface *(LDI not shown)*

How To Specify

SDI - TURF

Application
TURF - SiteControl

Model
SDI: Controls 200 addresses
LDI: Controls 500 addresses

Maxicom²®

Multi-site central control ideal for large-scale commercial systems.

- Multi-site Central Control System for commercial or industrial irrigation applications.
- Conserves water via advanced ET-based irrigation features.
- Flexible programming allows system to react to sensors and work within watering restrictions.

Control Features

- NEW • From the Maxicom² central controller, irrigation systems at multiple sites can be scheduled for days to water, run times, cyclical scheduling, linking schedules, sensor starts, Cycle+Soak™ schedules, etc.
- Irrigation start days are easily scheduled to meet complex watering requirements. Start days can be based on a custom day pattern per a weekly calendar (MTWTFSS), Odd/Even/Odd31 days, or skip days (starting on a designated date and skipping X days between irrigation starts). Event days off allow designation of non-water days (mow days, special events, etc).
- Station operating times can be automatically adjusted in response to changing daily ET (evapotranspiration) values supplied by a Rain Bird Weather Station or user input.
- Cycle+Soak™ feature optimizes the watering of poor drainage sites, slopes, and heavy soil areas. Water is applied at or below soil intake rates automatically, even during high water-use periods.
- Manual operation of system from central computer or from field satellite units.
- Operation of lighting systems (such as athletic field lighting), security gates, fountains, pumps, sensors, or other systems can also be managed from one central Maxicom² location.

Monitor Features

- NEW • Weather sources can be monitored by Maxicom² calculating daily ET values and automatically adjusting station run times to replace only the water used.
- "Flo-Watch™" monitors hydraulic conditions in the field, checking for breaks in system piping, or valve malfunctions. The system will automatically identify where the problem is located, initiate valve or mainline shutdown, and send an alarm message identifying where the problem occurred and the action taken to solve the problem.
- Low Flow / Zero Flow Alarm gives indications of unexpected under-flow conditions (plugged heads, stuck valve, failed solenoid, etc.)
- Schedules can start, advance, pause, or cancel according to sensor input from the field.
- Alarm messages alert the user to problems in the field.

Software Features:

- Graphical User Interface (Windows)
- Automated ET
- ET Checkbook™
- Flo-Manager™
- Flo-Watch™
- Cycle+Soak™
- Rain Watch™
- Schedule Audit
- Manual station control
- Irrigation water windows
- Control of non-irrigation applications
- Event calendar scheduling
- Water usage logs
- Station run time & water cost logs
- Fail-safe redundant back-up systems
- Multiple communication types
- pcAnywhere32 included (for tech support)

Remote System Control

- Take control of your system and operate Maxicom² from anywhere using the Rain Bird FREEDOM System. Available via phone, cellular phone or radio.

Central Control Support

- Every Central Controller purchase comes with one-year Global Support Plan (GSP). Following that first year, three support plan renewal lengths are offered. Select the coverage plan that best suits your needs - 5 years, 3 years, or 1 year.

GSP Features

- Toll-free phone support
- pcANYWHERE remote system diagnostics
- Extended warranty
- 24-hour hardware replacement
- Future upgrades to Maxicom² software at no charge
- Training credits
- Incident and other support

Central Controller Models

- MC2GOLD1- Desktop Central Controller

Maxicom²

Cluster Control Unit (CCU) Series

Maxicom®2 Only

- Runs real-time operations of a site consisting of up to 28 satellites.
- Adapts station sequence to changing conditions for maximum efficiency.
- Instantly responds to unexpected conditions and sensor inputs.

Features

- CCU-28 operates up to 28 satellites, pulse decoders, or sensor decoders (maximum of 672 total stations).
- CCU-6 operates up to 6 satellites, pulse decoders, or sensor decoders (maximum of 144 total stations).
- LED display that provides current satellite status.
- Stores and executes schedule instructions from the central controller.
- The CCU utilizes Flo-Watch™ to monitor hydraulic conditions in the field, checking for breaks in system piping, or valve malfunctions. The CCU will automatically identify where the problem is located, initiate valve or mainline shutdown to isolate the problem area, and continue with irrigation for the remaining available valves.
- The CCU utilizes Flo-Manager™ to monitor and sequence valves scheduled to be turned on, so expected demand does not exceed the hydraulic capacity of POCs.
- The CCU can start, advance, pause, or cancel schedules according to sensor input (rain, wind, etc) from the field.
- Communications activity LEDs show current communications status.
- Each unit provides either two-wire or MAXILink™ wireless communication to satellite controllers and sensors.
- Anti-rust, corrosion-resistant design.
- UL listed.

Mounting

- Wall mount: drawn steel, seamless, locking, weatherproof cabinets
- Pedestal: brushed stainless steel with removable front panel

CCU-6-W CCU-28-W

Computer Data Path Options (Central Controller to CCU)

- Telephone modem via dial-tone telephone lines (modem included)
- Telephone modem via cellular telephone system (modem not included)
- Radio modem via radio (point to point) (RS232 port included)
- Hardwire/direct connection (RS232 port included)
- Fiber optic cable (RS232 port included)
- Ethernet (RS232 port included)

Satellite Data Path Options (CCU to Satellite)

- Hardwire/2-wire path (1500 Ω loop resistance)
- MAXILink wireless radio path (MAX 2 watt ERP Narrowband)

Electrical Specifications

- Input required: 117 VAC±10% @ .5A 60 Hz or 220/240/260±10% @ .5A 50 Hz
- Output: 26.5 VAC, 60Hz or 50 Hz, .5A
- Circuit breaker: NA
- Autoresettable poly switch .65A open (steady state) 1.3A open (surge)
- Single-point grounding bus bar

Dimensions

- Wall Mount
  - Width: 11 5/16" (28,7 cm)
  - Height: 11½" (29,2 cm)
  - Depth: 6½" (16,5 cm)
- SS Pedestal
  - Width: 11½" (29,2 cm)
  - Height: 30" (76,2 cm)
  - Depth: 11½" (29,2 cm)

Models

- CCU-28-W: 28 channels, wall mount
- CCU-28-S: 28 channels, stainless steel pedestal
- CCU-6-W: 6 channels, wall mount
- CCU-6-S: 6 channels, stainless steel pedestal

How To Specify

CCU - 28 - W

- ***Mounting***
  W: Wall mount
  S: stainless steel pedestal
- ***Channels***
  6: 6 channels
  28: 28 channels
- ***Model***
  CCU

Example specifies a CCU with 28 channels, in a wall mount cabinet.

ESP-SAT

12, 16, 24, 28, 32, 36, 40 Stations
Maxicom²® and SiteControl

- Field Satellite Controller for Maxicom² or SiteControl central control systems.
- The power of an advanced water-management tool, in an easy-to-use package.
- All the features and stand-alone capabilities of Rain Bird's ESP-MC Controller line.

● ESP-40SAT-2W Satellite

Features (stand-alone operation)

- 12-hour watering duration for any or all stations to aid in drip compatibility.
- Four programs with eight start times each allow mixed irrigation applications in a single controller.
- Two master valve terminals, one programmable by station, provide better control.
- Programs can overlap to maximize hydraulic capacity and minimize watering time.
- 365-day calendar with leap year intelligence for one-time date and time setting.
- Event day off option to set any day of the month as a non-watering day for all programs.
- Programmable rain delay enables system to stay off for specified period with auto-restart.
- Independent day cycle by program.
- Water budget by program provides adjustments from 0-300% in 1% increments.
- Cycle+Soak by station allows total irrigation run time to be split into usable cycles, minimizing runoff.
- Manual watering by station or program.
- Sensor override switch with LED to indicate when irrigation is suspended.
- Non-volatile, 100-year memory holds program, date, and time during power outages.
- Automatic fault indication identifies electrical shorts, skips shorted stations, and continues watering remaining program.
- Rapid Station Test Routine (RASTER™) enables the controller to diagnose and troubleshoot field wiring and solenoid problems quickly and easily.
- Quick-connect terminal strip speeds installation.
- Universal remote ready: pre-installed connectors for addition of remote products.
- Heavy-duty transformer for simultaneous operation of up to nine 24 VAC, 7VA solenoids.

How To Specify

ESP - 24SAT - 2W

Model
ESP (120VAC)
IESP (230VAC)

Number of Stations
12SAT: 12 stations
16SAT: 16 stations
24SAT: 24 stations
28SAT: 28 stations
32SAT: 32 stations
36SAT: 36 stations
40SAT: 40 stations

Satellite Data Path
2: Two-wire
L: MAXILink™ Radios

Mounting
W: Metal Wall Mount
S: Stainless Steel

Central Control

- Battery-programmable faceplate allows for programming prior to installation.
- When controller is integrated into a central control system, feature set changes to that listed on page 162.

Note: Requires a CCU to connect to Maxicom².

- Available in 2 enclosures:
  - Powder-coated wall mount steel cabinet
  - Stainless steel pedestal

Operating Specifications

- Station timing: A, B, C, D: 0 to 2 hours in 1-minute increments; 2 to 12 hours in 10-minute increments
- Automatic starts: 32 starts total, eight per program per day
- Programming schedule: 1. ODD day watering per program; 2. EVEN day watering per program 3. CYCLICAL (1 to 99 days, variable per program; 4. Custom day-of-the-week by program
- Test program: Variable 1 to 99 minutes

Electrical Specifications

- Input required: 117 VAC ± 10%, 60Hz (International models: 230 VAC± 10%, 50Hz)
- Output 26.5 VAC, 2.5A
- Station load capacity: Up to two 24 VAC, 7VA solenoid valves per station plus a master valve or pump start relay
- Diagnostic circuit breaker skips and indicates stations with overloaded circuits
- Non-volatile, 100-year memory holds program, date, and time during power outages.
- Battery backup: 9VDC, NiCad rechargeable for programming under battery power and for maintaining active program-in-progress during a power outage
- Heavy-duty electrical surge protection
- Single-point ground bus bar

Dimensions

- Wall Mount Metal
  - Width: 11 5/16" (28,7 cm)
  - Height. 11½" (29,2 cm)
  - Depth: 6½" (16,5 cm)
- SS Pedestal
  - Width: 11½" (29,2 cm)
  - Height. 30" (76,2 cm)
  - Depth: 11½" (29,2 cm)

Models

Two-wire Communication CCU or TWI to Satellite

- ESP-12SAT-2W: 12 stations, wall mount
- ESP-16SAT-2W: 16 stations, wall mount
- ESP-24SAT-2W: 24 stations, wall mount
- ESP-28SAT-2W: 28 stations, wall mount
- ESP-32SAT-2W: 32 stations, wall mount
- ESP-36SAT-2W: 36 stations, wall mount
- ESP-40SAT-2W: 40 stations, wall mount
- ESP-12SAT-2S: 12 stations, stainless steel pedestal
- ESP-16SAT-2S: 16 stations, stainless steel pedestal
- ESP-24SAT-2S: 24 stations, stainless steel pedestal
- ESP-28SAT-2S: 28 stations, stainless steel pedestal
- ESP-32SAT-2S: 32 stations, stainless steel pedestal
- ESP-36SAT-2S: 36 stations, stainless steel pedestal
- ESP-40SAT-2S: 40 stations, stainless steel pedestal

Link Radio Communication CCU or TWI to Satellite

- ESP-12SAT-LW: 12 stations, wall mount
- ESP-16SAT-LW: 16 stations, wall mount
- ESP-24SAT-LW: 24 stations, wall mount
- ESP-28SAT-LW: 28 stations, wall mount
- ESP-32SAT-LW: 32 stations, wall mount
- ESP-36SAT-LW: 36 stations, wall mount
- ESP-40SAT-LW: 40 stations, wall mount
- ESP-12SAT-LS: 12 stations, stainless steel pedestal
- ESP-16SAT-LS: 16 stations, stainless steel pedestal
- ESP-24SAT-LS: 24 stations, stainless steel pedestal
- ESP-28SAT-LS: 28 stations, stainless steel pedestal
- ESP-32SAT-LS: 32 stations, stainless steel pedestal
- ESP-36SAT-LS: 36 stations, stainless steel pedestal
- ESP-40SAT-LS: 40 stations, stainless steel pedestal

Note: All models also available in 50Hz

Note: If LINK communication is to be used between the CCU and the satellites, a Radio/Modem kit must also be specified.

Note: ESP-SAT field satellite controllers require a CCU to connect to the Maxicom² system.

Note: Two-wire path is a hardwire communication path connecting the ESP-SAT to the CCU.

Note: Link Radio is wireless radio communication connecting the ESP-SAT to a CCU.

Note: 12, 16 & 24 station models occupy 1 channel on CCU. 28, 32, 36 & 40 station models occupy 2 channels on CCU.

Note: Link Radio communication satellites have 2 sensor inputs.

ESP-Site Satellite Series

12, 16, 24, 28, 32, 36, 40 Stations
Maxicom²® Only

- Combines power of a Cluster Control Unit (CCU) with capabilities of a single ESP-Satellite controller for small Maxicom² sites.
- Advanced water-management tool, in an easy-to-use package.
- All the features and stand-alone capabilities of Rain Bird's ESP-MC Controller line.

● ESP-28SITE-W Site Satellite

Features

- Combines the function of a Cluster Control Unit (CCU) with an ESP-SAT controller.
- Can monitor up to 2 Maxicom sensors.
- Stores and executes schedule instructions from the central controller.
- Operates up to 40 stations.
- Communicates with central computer via telephone, hardwire, radio, fiber-optic cable, or Ethernet.
- Available in metal wall mount, stainless steel pedestal, module kit for existing stainless steel pedestals or upgrade kit for existing ESP-MC or ESP-SAT controllers.
- Four programs with eight start times each allow mixed irrigation applications in a single controller.
- Two master valve terminals, one programmable by station, provide better control.
- 365-day calendar with leap year intelligence for one-time date and time setting.
- Event day off option to set any day of the month as a non-watering day for all programs.
- Programmable rain delay enables system to stay off for specified period with auto-restart.
- Water budget by program provides adjustments from 0-300% in 1% increments.
- Cycle+Soak™ by station allows total irrigation run time to be split into usable cycles, minimizing runoff.
- Sensor override switch with LED to indicate when irrigation is suspended.
- Non-volatile, 100-year memory holds program, date, and time during power outages.
- Automatic fault indication identifies electrical shorts, skips shorted stations, and continues watering remaining program.
- Quick-connect terminal strip speeds installation.
- Rapid Station Test Routine (RASTER™) enables the controller to diagnose and troubleshoot field wiring and solenoid problems quickly and easily.
- Universal remote ready: pre-installed connectors for addition of remote products.

How To Specify

ESP - 24SITE - W

Mounting
W: Metal wall mount
S: Stainless Steel

Number of Stations
12SITE: 12 stations
16SITE: 16 stations
24SITE: 24 stations
28SITE: 28 stations
32SITE: 32 stations
36SITE: 36 stations
40SITE: 40 stations

Model
ESP

Central Control

- Battery-programmable controller allows for programming prior to installation.
- When controller is integrated into a central control system, feature set changes to that listed on page 162.

Note: Does not require a CCU to connect to Maxicom².

- Available in 2 enclosures:
  - Power-coated wall mount steel cabinet
  - Stainless steel pedestal

Operating Specifications

- Station timing: A, B, C, D: 0 to 2 hours in 1-minute increments; 2 to 12 hours in 10-minute increments
- Automatic starts: 32 starts total, eight per program per day
- Programming schedule: 1. ODD day watering per program; 2. EVEN day watering per program 3. CYCLICAL (1 to 99 days, variable per program; 4. Custom day-of-the-week by program
- Test program: Variable 1 to 99 minutes

Computer Data Path Options (Central Controller to ESP-Site Satellite)

- Telephone modem via dial-tone telephone lines (modem included)
- Telephone modem via cellular telephone system (modem not included)
- Radio modem via radio (point to point) (RS232 port included)
- Hardwire/direct connection (RS232 port included) - serial cable or short haul modem
- Fiber optic cable (RS232 port included)
- Ethernet (RS232 port included)

Electrical Specifications

- Input required: 117 VAC ± 10%, 60Hz (International models: 230 VAC± 10%, 50Hz)
- Output 26.5 VAC, 2.5A
- Station load capacity: Up to two 24 VAC, 7VA solenoid valves per station plus a master valve or pump start relay
- Diagnostic circuit breaker skips and indicates stations with overloaded circuits
- Battery backup: 9VDC, NiCad rechargeable for programming under battery power and for maintaining active program-in-progress during a power outage
- Heavy-duty electrical surge protection
- Single-point ground bus bar

Dimensions

- Wall Mount Metal
  - Width: 11 5/16" (28,7 cm)
  - Height. 11½" (29,2 cm)
  - Depth: 6½" (16,5 cm)
- SS Pedestal
  - Width: 11½" (29,2 cm)
  - Height. 30" (76,2 cm)
  - Depth: 11½" (29,2 cm)

Models

- ESP-12SITE-W: 12 stations, metal wall mount
- ESP-16SITE-W: 16 stations, metal wall mount
- ESP-24SITE-W: 24 stations, metal wall mount
- ESP-28SITE-W: 28 stations, metal wall mount
- ESP-32SITE-W: 32 stations, metal wall mount
- ESP-36SITE-W: 36 stations, metal wall mount
- ESP-40SITE-W: 40 stations, metal wall mount
- ESP-12SITE-S: 12 stations, stainless steel pedestal
- ESP-16SITE-S: 16 stations, stainless steel pedestal
- ESP-24SITE-S: 24 stations, stainless steel pedestal
- ESP-28SITE-S: 28 stations, stainless steel pedestal
- ESP-32SITE-S: 32 stations, stainless steel pedestal
- ESP-36SITE-S: 36 stations, stainless steel pedestal
- ESP-40SITE-S: 40 stations, stainless steel pedestal

Note: All models also available in 230V/50Hz

Module Kits for ESP-LX Plus Site, ESP-SAT & ESP-SITE Satellites

12, 16, 20, 24, 32 & 40 Stations
Maxicom²® or SiteControl

● ESP-SAT-MOD

- Allow combining the power of a Cluster Control Unit (CCU) with the capabilities of an ESP-LX+ controller.
- Allow upgrades from standalone ESP-MC controllers to ESP-SATs and ESP-SITE-SATs.
- Stores and executes schedule instructions from the central controller.

How To Specify

ESPLX - 24 - STM

- **Model Being Upgraded**
  - ESPLX (120 VAC)
  - IESPLX (230 VAC)
- **Number of Stations**
  - 16: 16 stations
  - 20: 20 stations
  - 24: 24 stations
- ST: SITE Satellite (230 VAC)
- STM: SITE Module Kit (Upgrade) (120 VAC)
- SM: SITEModule Kit (Upgrade) (230 VAC)

How To Specify

ESP - 24 - MOD - 2S

- **Model**
  - ESP
- **Number of Stations**
  - 12: 12 stations
  - 16: 16 stations
  - 24: 24 stations
  - 32: 32 stations
  - 40: 40 stations
- **Mounting**
  - MOD: Module for SS Pedestal
- **Satellite Data Path**
  - 2S: Two-wire
  - LS: MAXILINK™

How To Specify

ESP - 24 - SITEM

- **Model**
  - ESP
- **Number of Stations**
  - 12: 12 stations
  - 16: 16 stations
  - 24: 24 stations
  - 32: 32 stations
  - 40: 40 stations
- **Module**
  - SITEM: SITE-SAT Module for SS Pedestal

Features

ESP-LX Plus Site Module Kits

- Module kit to upgrade existing ESP-LX Plus controllers.
- Includes 2 sensor inputs - no decoders required.
- Operates up to 24 stations.
- Communicates with central controller via telephone, hardwire, radio or fiber-optic cable.
- Compatible with Maxicom²® only.

ESP-SATE & ESP-SITE Module Kits

- Stand Alone operation identical to ESP-MC.
- ESP-SITE compatible with Maxicom²® only.
- ESP-SAT compatible with Maxicom² and SiteControl.

Central Controller Data Path (Central Controller to Satellite)

- Telephone modem via dial-tone telephone lines (modem included)
- Telephone modem via cellular telephone system (modem not included)
- Radio modem via radio (point to point) (RS232port included)
- Hardwire/direct connection (RS232port included) - serial cable or short haul modem
- Fiber optic cable modem (RS232port included)
- Ethernet (RS232port included)

● ESP-SAT-MOD in SS Pedestal

● ESP-LX-24 upgraded to ESPLX24STM

Electrical Specifications

ESP-LX Plus Site Module Kits

- Input required: 117 VAC ± 10%, 60 Hz (International models 230 VAC ± 10%, 50 Hz).
- Output: 26.5 VAC, 1.5A
- Station Capacity: **ONE** 24 VAC, 7VA solenoid valve per station plus a master valve or pump start relay
- Heavy-duty electrical surge protection.

ESP-SATE & ESP-SITE Module Kits

- Input required: 117 VAC ±10%, 60Hz (International models: 230 VAC ±10%, 50Hz)
- Output 26.5 VAC, 2.5A
- Station load capacity: Up to two 24 VAC, 7VA solenoid valves per station (up to 4 stations operating simultaneously) plus a master valve or pump start relay
- Diagnostic circuit breaker skips and indicates stations with overloaded circuits
- Battery backup: 9VDC, NiCad rechargeable for programming under battery power and for maintaining active program-in-progress during a power outage

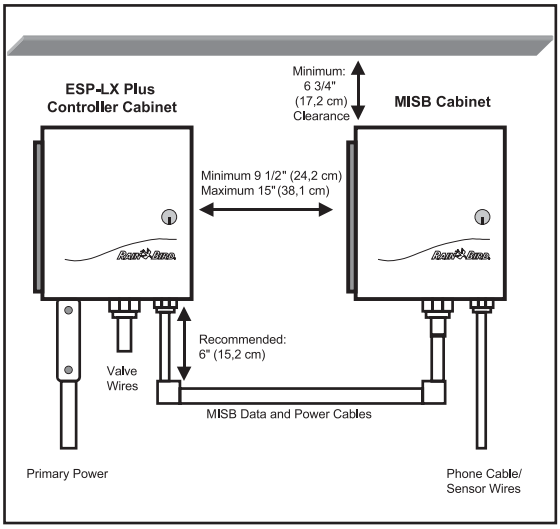
Dimensions:

Modem Interface (SITE) Board Cabinet

- Width: 9½" (24,1 cm)
- Height: 10¼" (26 cm)
- Depth: 4⅜" (11,1 cm)

ESP-SAT & ESP-SITE Module Kits

- Width: 9¼"
- Length: 10¼"
- Depth: 5"



Models

ESP-LX PLUS SITE SATELLITE MODULE KITS (Maxicom only)

- ESPLX16STM: 16 Stations, Module Kit
- ESPLX20STM: 20 Stations, Module Kit
- ESPLX24STM: 24 Stations, Module Kit

ESP SITE SATELLITE MODULE KITS (Maxicom only)

- ESP12SITEM – 12 Stations
- ESP16SITEM – 16 Stations
- ESP24SITEM – 24 Stations
- ESP32SITEM – 32 Stations
- ESP40SITEM – 40 Stations

ESP SATELLITE MODULE KITS FOR SS PEDESTALS

TWO-WIRE COMMUNICATION CCU OR TWI TO SATELLITE

- ESP12MOD2S – 12 Stations
- ESP16MOD2S – 16 Stations
- ESP24MOD2S – 24 Stations
- ESP32MOD2S – 32 Stations
- ESP40MOD2S – 40 Stations

LINK RADIO COMMUNICATION CCU OR TWI TO SATELLITE

- ESP12MODLS – 12 Stations
- ESP16MODLS – 16 Stations
- ESP24MODLS – 24 Stations
- ESP32MODLS – 32 Stations
- ESP40MODLS – 40 Stations

Note: All models also available in 230V/50Hz

Note: Radio/Modem kits sold separately for Link Radio models

Note: ESP-SAT Field Controllers require either a CCU (Maxicom²) or a TWI (SiteControl) to connect to the central controller

Link Radio Kits

Maxicom²® or SiteControl

Features

- Allows wireless communication between CCU or TWI and satellite controllers.
- Easy installation in CCU, TWI or ESP-SAT-Link controllers.
- Available preprogrammed in Private Business or special frequencies.

Models

- RMK406NARR (406-430 MHz - Government only)
- RMK450NARR (450-470 MHz - Commercial band)

License Requirements

- FCC frequency license required

Installation Requirements

- One radio modem kit required at each CCU, TWI, or ESP-SAT-Link
- CCU (Cluster Control Unit) required for Maxicom²
- TWI-Link required for SiteControl
- Includes hardware for installation in wall-mount or stainless steel pedestal controllers.
- Antenna required (sold separately)
- Radio Modem Kit can be shared by multiple ESP-SAT-LINK satellites installed at a single location with use of Cluster Adapter Modules.

Freedom for Central Control

Maxicom²® or SiteControl

Features

- Uses standard telephone interface or radio repeater at computer.
- Hand-held remote can be either a cellular telephone or hand-held radio.
- 2-way talk communication is available with radio system.
- Standard land-line telephones can also control the system.
- Password protected for security.
- Start/stop stations, schedules, or site (rain shutdown).
- One unit covers entire central control system.

Hardware

- Radio System – repeater, hand-held unit, antenna, cables
- Telephone System – DTMF module, power supply, cable

Electrical Specifications

- Input required: 117VAC 60Hz
- Telephone System: dedicated dial-up telephone line

License Requirements

- Telephone System: none
- Radio system: FCC frequency license required.

Dimensions

- Telephone System
  DTMF module: 6" x 7" x 2" (152 mm x 178 mm x 51 mm)
- Radio System
  Repeater: 16.38" x 9.63" x 4.50" (416 mm x 245 mm x 114 mm)
  Hand-held: 3.0" x 8.0" x 1.5" (76 mm x 203 mm x 38 mm)

Models

- FREEDOMFO (phone)
- FREERADWSP (radio, special frequency)

Freedom for Central Control - Radio

Flow Sensors

Maxicom²®, SiteControl, MDC or IQ

Features (Sensors)

- Simple six-bladed impeller design.
- Designed for outdoor or underground applications.
- Available in PVC, brass or stainless steel construction.
- Pre-installed in tee or saddle mounted insert versions.
- Can be combined with pulse set point device to operate as switch sensor with IQ.

Features (Transmitters)

- Reliable solid-state design.
- Display or signal-alone versions.
- Easy-to-program, menu-driven design.
- Programmable from a computer (PT322 only).
- Operates with MAXILink™ MAXI two-wire, and two-wire decoder systems.
- Mounted in NEMA enclosure (optional in 1502 only).

Operating Specifications (Sensors)

- Accuracy: ± 1% (full scale)
- Flow rate: 0.5-30 feet per second
- Pressure: 400 psi (max) on metal models; 100 psi (max) on plastic models
- Temperature: 221°F (105°C) (max) on metal models; 140°F (60°C) (max) on plastic models

Electrical Specifications (Transmitters)

- Input required: 9-35 VDC (322 Series); 12-24 VDC (1502 Series)
- Output: Pulse output
- Operating Temp: 32°F-158°F (0°C to 70°C)
- Units: Domestic and International units available on PT1502

Dimensions

- PT322: 3.65" x 1.75" x 1.00" (93mm x 44mm x 25mm)
- PT1502: 3.78" x 3.78" x 2.21" (96mm x 96mm x 56mm)
- FS100B: 5.45" x 4.94" x 2.21" (138mm x 126mm x 56mm)
- FS150P: 5.0" x 5.16" x 2.38" (127mm x 131mm x 60mm)
- FS200P: 5.63" x 5.64" x 2.88" (143mm x 143mm x 73mm)
- FS300P: 6.50" x 6.83" x 4.23" (165mm x 173mm x 107mm)
- FS400P: 7.38" x 7.83" x 5.38" (187mm x 199mm x 137mm)
- FS350B/SS: 7.13" x 3"(diameter) (181mm x 76mm (diameter))
- FS350SS: 7.13" x 3"(diameter) (181mm x 76mm (diameter))

● **Flow Sensors**

● **Flow Sensor Transmitters and Accessories**

How To Specify

FS - 100 - B (Flow Sensors)

FS = Flow Sensor

100 = 1" (25mm)
150 = 1½" (40mm)
200 = 2" (50mm)
300 = 3" (75mm)
400 = 4" (110mm)
350 = 3" (75mm) & higher

B = Brass
P = Plastic (PVC)
SS = Stainless Steel

PT - 322 (Pulse Transmitters)

PT = Pulse Transmitter

322 = No read out
1502 = Digital readout

Flow Sensors (continued)

Configuration

- **For (Hard Wire) Two-Wire Satellite Systems (Maxicom²® and SiteControl),** the Flow Sensor is installed with a Pulse Transmitter and a Rain Bird Pulse Decoder (DECPULLR).
- **For Link Radio Satellite Systems (Maxicom² and SiteControl),** the Flow Sensor is installed with a Pulse Transmitter (no decoder required).
- **For ESP-SITE Satellite Systems (Maxicom²),** the Flow Sensor is installed with a Pulse Transmitter (no decoder required).
- **For SiteControl Decoder Systems,** the Flow Sensor is installed with a Pulse Transmitter and a Two-Wire Decoder Sensor Decoder (SD210TURF).
- **For MDC Decoder Systems,** the Flow Sensor is installed with a Two-Wire Decoder Sensor Decoder (SD210TURF) - pulse transmitter is optional.
- Surge protection (FSSURKIT) is recommended for all systems - One at the Flow Sensor, and if more than 50' of wire run, one at the Pulse Transmitter.

Models

Sensors

- FS100B: Flow sensor, 1", brass tee
- FS150P: Flow sensor, 1½", plastic tee
- FS200P: Flow sensor, 2", plastic tee
- FS300P: Flow sensor, 3", plastic tee
- FS400P: Flow sensor, 4", plastic tee
- FS350B: Flow sensor, 3" and higher, brass insert
- FS350SS: Flow sensor, 3" and higher, stainless steel insert

Transmitters

- PT322: Pulse transmitter, no read-out
- PT1502: Pulse transmitter, digital read-out

Note: Does not include NEMA-rated cabinet or power supply.

Accessories

- PT322SW (PT322 programming software)
- PTPWRSUPP (pulse transmitter power supply)
- FSSURGEKIT (surge suppressor)
- FSTINSERT (replacement insert for tee-type sensors)
- NEMACAB (NEMA Enclosure for PT1502)
- DECPULLR (Pulse Decoder for two-wire satellites)
- SD210TURF (Sensor Decoder for decoder systems)

Rain Bird Flow Sensor Suggested Operating Range

The following table indicates the suggested flow range for Rain Bird Flow Sensors. Rain Bird Sensors will operate both above and below the indicated flow rate. However, good design practice dictates the use of this range for best performance. Sensors should be sized for flow rather than pipe size.

Model	Suggested Operating Range (Gallons / Minute)	Suggested Operating Range (Liters / Minute)	Suggested Operating Range (Cubic Meters / Hour)
FS100B	2 - 40	6 - 150	0,5 - 9,1
FS150P	5 - 100	18 - 378	1,1 - 22,7
FS200P	10 - 200	36 - 756	2,3 - 45,4
FS300P	20 - 300	78 - 1134	4,5 - 68,1
FS400P	40 - 500	150 - 1890	9,1 - 113,6
FS350B	12 - 45000*	48 - 168000*	2,7 - 10200*
FS350SS	12 - 45000*	48 - 168000*	2,7 - 10200*

** Depends on pipe size and material*

WS PRO Series

Maxicom²® or SiteControl

Features

- Powerful, internal micro-logger for climatic data collection, logging and analysis, constant communication with weather sensors, and storage of 30 days of data.
- Sensors monitor 6 weather ET (evapotranspiration) parameters: air temperature, solar radiation, relative humidity, wind speed, wind direction and rainfall.
- Self-diagnostic test mechanisms: internal moisture sensor, battery voltage level and test port for local sensor check.
- State-of-the-art weather software in the Maxicom² central controller calculates ET values, stores daily and historic ET data, monitors and displays current weather conditions, and graphically displays weather parameters.
- Simple-to-service sensors and internal components.
- Sensors located three meters above ground for added vandal-resistance.
- Functions as an integral part of the Maxicom² or SiteControl central control system.
- Rugged yet lightweight metal construction.
- Automatically integrates into the Maxicom² or SiteControl central control system.

Models

- WS-PRO2-PH: Telephone
- WS-PRO2-PHS: Telephone, Solar Power
- WS-PRO2-DC: Direct Connect

WS-PRO

RAINGAUGE

Maxicom²® or SiteControl

Features

- Accurate rain counter switch counts rainfall in 1/100th inch increments
- Heavy-duty metal construction.
- Mounting bracket.
- Debris screen.
- 4" diameter.

Model

- RAINGAUGE

RAINGAUGE

ANEMOMETER

Maxicom²®

Features

- Accurate wind speed.
- Heavy-duty metal mounting bracket.

Note: Requires PT322 or PT1502 pulse transmitter to communicate with Maxicom².

Model

- ANEMOMETER

ANEMOMETER

Central Control

Sensor-Pulse Decoders

For Maxicom²® or SiteControl Two-Wire Satellite Systems

Features

- Complete feedback system.
- Extends central control system versatility.
- Color-coded wire leads for ease of installation.
- Programmable address codes for individual operation.
- Encapsulated in moisture-and UV-resistant case for use in outdoor conditions.

Functions

- Sensor Decoder: Monitors dry contact switches (moisture sensor, pressure switch, security systems, etc.) for open or closed conditions and informs the system of switch status.
- Pulse Decoder: Reads pulses from monitoring devices, such as flow sensors and counting rain gauge, and sends the information to the system for analysis and action.

Electrical Specifications

- Input required: 26 VAC (provided by the 2-wire communication path. No separate power supply required)

Dimensions

- Top: 3¼" diameter (8,3 cm); Height: 8" (20,3 cm); Bottom: 2½" diameter (6,4 cm)

Models

- DECSEN Sensor Decoder (for switch sensor)
- DECPUL Pulse Decoder (for pulse sensor)

Note: All decoders function with the satellite 2-wire communication path only. They are not required for the MAXILink™ communication path or ESP-SITE Satellites.

● DEC-SEN ● DEC-PUL

MSP-1

Maxicom²® or SiteControl
Surge Protection for Two-Wire Satellite and
Two-Wire Decoder Systems

Features

- Protects central control components from electrical surges on a two-wire communication path.
- Can be installed in satellite or CCU pedestal or underground in conjunction with MGP-1 (Maxicom²® Grounding Plate).

Model

- MSP-1

● MSP-1

MGP-1

Maxicom²® or SiteControl
Surge Protection for Two-Wire Satellite and
Two-Wire Decoder Systems

Features

- Provides a mounting location for MSP-1 or other grounding wires directly to a grounding rod or pipe.
- Installed on grounding rod or pipe.

Model

- MGP-1

● MGP-1

Central Control

ESP-MIB/ESPSITEU

Maxicom²® or SiteControl
Interface Board Kit

Features

- Easy installation into existing ESP-MC controllers.
- Easy wiring with ESP-MC style wire connectors.
- Available in two-wire and MAXILink™ satellite versions. (Radio/modem kit must be purchased separately.)
- Includes all hardware (including transformer) and cables for installation in wall-mounted or pedestal-mounted controllers.

Models

- ESPMIB2: Two-wire data path satellite
- ESPMIBL: MAXILink radio data path satellite
- ESPSITEU: Site satellite **(Maxicom² only)**

U-DTC-LXM Upgrade Kit

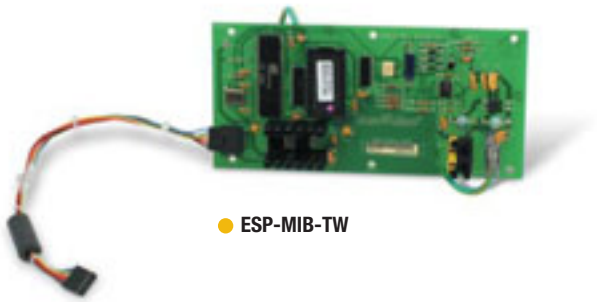
IQ™ Upgrade for ESP-LX Modular Controllers

Features

- Upgrade any ESP-LX Modular Controller to an LXM-DTC Satellite Controller.
- No additional enclosures or external wiring to install.
- Snaps into controller easily without tools.
- Modular DTC-LXM Direct-To-Central communication interface cartridge snaps into dedicated cartridge bay on back of controller faceplate.
- Ribbon cable connects cartridge to controller.
- Status LEDs show current communication status.
- DTC-LXM firmware is reflashable from the IQ™ central computer.
- DTC-LXM communication options include phone, cellular, Ethernet, WiFi, radio, fiber-optics, and direct connect.
- Upgrade kit includes LXM-DTC cartridge, communication cables, IQ™ Satellite faceplate overlay, and manual.

Models

- U-DTC-LXM-PHONE+RS232
- U-DTC-LXM-R-RS232 only



ESP-MIB-TW

DTC-LXM-PR Direct-To-Central communication interface cartridge

Insurance for Your Central Control System

Central Control Support Plans

- Insurance for your central control system with coverage plans that suit your needs — 5 years, 3 years, or 1 year.
- Factory-direct service that includes priority technical support, training, and hardware replacement.
- The convenience of remote troubleshooting and on-site service when necessary to make sure your central control equipment works as it should.

Features

- Training – Receive training credits* to apply towards training at the state-of-the-art central control training facility located in Tucson, Arizona. Each $400 training credit will pay the tuition cost for one full day of Level 1 or Level 2 training. You get two credits ($800) for one-year or two-year GSP; three credits ($1,200) for three-year GSP; and four credits ($1,600) for five-year GSP. Best of all, you can carry over unused credits to apply for future training or refresher training.
- Extended Warranty – As soon as your original warranty expires, GSP kicks in with additional months of coverage.
- 24 Hour Hardware Replacement – We'll ship you a loaner unit to replace any inoperable equipment within 24 hours, reducing downtime while your original hardware is repaired.
- Software Service Packs and Upgrades – GSP provides everything you need to keep your system up-to-date. No additional charges for upgrading software.
- Per Incidence and Other Support - In addition to Telephone Support on a per incident basis, Rain Bird offers Services including Central Central programming, database initialization & site mapping services, weather station service, grounding grid services, installed system evaluation services, diagnostic troubleshooting and repair services, and more. We will work with you to meet your needs. As a Global Support Plan subscriber, you have preferential pricing on our services. Call us for more information.

** Note: Training credits do not apply to Basic GSP Plans. Basic GSP Plans include all the key benefits of GSP, but do not include training credits.*

Models

- Maxicom²® and SiteControl Central Controller Packages come with one year support included.
- IQ™ Software and MDC Controllers come with 6-month support included.

MAXICOM²® CENTRAL CONTROL SYSTEM GLOBAL SUPPORT PLAN RENEWALS

- GSPMC1YR: Maxicom² Global Support Plan (1 year, up to 10 sites)
- GSPMC2YR: Maxicom² Global Support Plan (2 years, up to 10 sites)
- GSPMC3YR: Maxicom² Global Support Plan (3 years, up to 10 sites)
- GSPMC5YR: Maxicom² Global Support Plan (5 years, up to 10 sites)
- GSPMC1YR-B: Maxicom² Basic Global Support Plan (1 year, up to 10 sites)
- GSPMC2YR-B: Maxicom² Basic Global Support Plan (2 years, up to 10 sites)
- GSPMC3YR-B: Maxicom² Basic Global Support Plan (3 years, up to 10 sites)
- GSPMC5YR-B: Maxicom² Basic Global Support Plan (5 years, up to 10 sites)

MAXICOM² CENTRAL CONTROL SYSTEM GLOBAL SUPPORT PLAN, ADD-ON PLANS

- GSPMCADD1Y: Additional 1 Site GSPMC 1 year
- GSPMCADD2Y: Additional 1 Site GSPMC 2 years
- GSPMCADD3Y: Additional 1 Site GSPMC 3 years
- GSPMCADD5Y: Additional 1 Site GSPMC 5 years

SITECONTROL CENTRAL CONTROL SYSTEM GLOBAL SUPPORT PLAN

- GSPSC1YR: SiteControl Global Support Plan (1 system, 1 year)
- GSPSC2YR: SiteControl Global Support Plan (1 system, 2 years)
- GSPSC3YR: SiteControl Global Support Plan (1 system, 3 years)
- GSPSC5YR: SiteControl Global Support Plan (1 system, 5 years)
- GSPSC1YR-B: SiteControl Basic Global Support Plan (1 system, 1 year)
- GSPSC2YR-B: SiteControl Basic Global Support Plan (1 system, 2 years)
- GSPSC3YR-B: SiteControl Basic Global Support Plan (1 system, 3 years)
- GSPSC5YR-B: SiteControl Basic Global Support Plan (1 system, 5 years)

MDC TWO-WIRE DECODER SYSTEM GLOBAL SUPPORT PLAN

- GSPMD1YR: MDC Global Support Plan (1 system, 1 year)
- GSPMD3YR: MDC Global Support Plan (1 system, 3 years)
- GSPMD5YR: MDC Global Support Plan (1 system, 5 years)

IQ™ CENTRAL CONTROL SYSTEM GLOBAL SUPPORT SYSTEM

- GSPIQ1YR: IQ Global Support Plan - 1 year
- GSPIQ1YR-B: IQ Basic Global Support Plan - 1 year

Commercial Pump Stations

Efficient, performance-driven, that's the bottom line advantage.

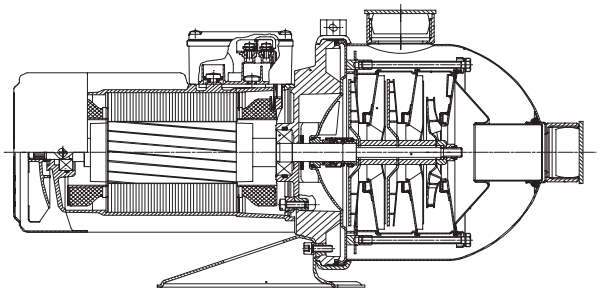
Rain Bird® pump stations combine energy-efficient, industry-leading variable-frequency drive (VFD) technology with superior hydraulic capabilities. Complete pumping solutions include single pump, multi-pump, submersible, split-case, and vertical turbine systems for commercial pressure boosting, water features, flooded-suction, and suction-lift applications. Rain Bird pump stations assure enduring performance, even under the harshest operating conditions. The result is a greater return on investment when compared to traditional pumping systems.

Install Confidence®
Install Rain Bird® Pump Stations.

Low Flow Irrigation and Water Features

CHI Series (Constant Speed Pump)

● CHI Series Constant Speed Booster Pumps



- Horizontal, multistage, constant speed, closed-coupled, end suction pump with 316SS pump sleeve, intermediate chambers, impellers, spline shaft, suction interconnector, and cover plate, coupled to a totally enclosed fan cooled (TEFC) motor, mechanical shaft seal with silicon carbide rotating and stationary seal faces and EPDM elastomers, cast iron motor flange, and painted steel base plate .
- Constant speed pumps available in three configurations
  - Option #1 – Pump with no controls or enclosure
  - Option #2 – Pump with a separate control panel including pump start relay, lighting protection, motor protector, and On/Off switch in a NEMA 3R enclosure
  - Option #3 – CHI pump station with control panel, marine grade aluminum enclosure with exhaust fan and optional heater, suction/discharge piping, and optional external disconnect
- Rain Bird authorized factory startup available as an option for the Pump Station configuration only.

Operation Range

- Flow Range: 0 - 60 GPM
- Boost Range: 0 - 85 PSIG
- Maximum Operating Pressure: 145 PSIG
- Sound Pressure Level: ≤ 64 dB(A)

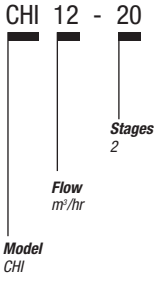
Electric Specifications

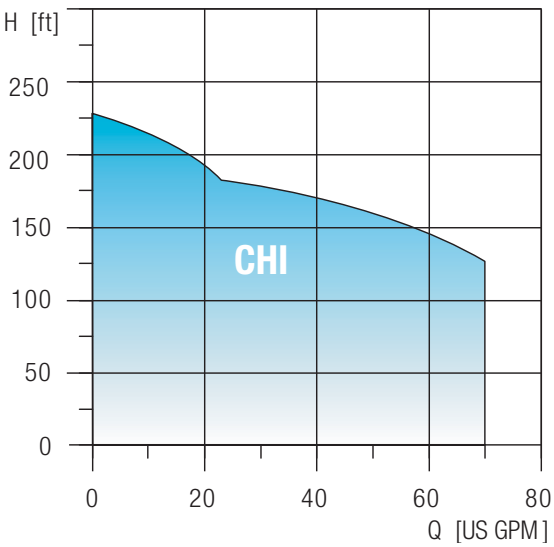
- Input Required: 60Hz
- 1 Phase 115V and 1 Phase 230V Models (½ -1.5 hp)
- 3 Phase 208V, 230V, 460V, & 575V Models (½- 3 hp)

Flow Range and Horsepower

Pump Model	Flow Range (GPM)	Boost Range (PSIG)	hp Range
CHI-2 (1" NPT)	0 – 16	0 – 85	½ - 1
CHI-4 (1.25" NPT)	0 – 30	0 – 85	½ - 1.5
CHI-8 (1.5" NPT)	0 – 40	0 – 60	¾ - 1.5
CHI-12 (1.5" NPT)	0 – 60	0 – 75	½ -3

How To Specify





Low Flow Irrigation and Water Features

CHIE Series (Single and Dual Pump VFD Pump Stations)

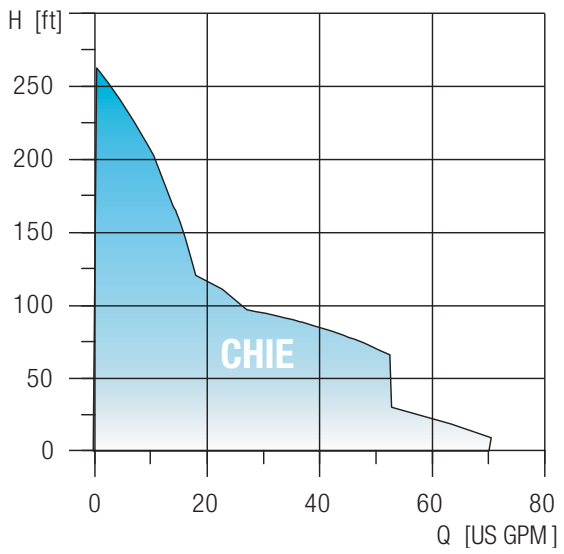
- Constant pressure variable flow pump stations with single or dual horizontal multistage pump(s) with integral variable frequency drive (VFD) and PI controller, NEMA 4 control panel with fused main disconnect, lighting protection, prewired heater and fan circuits, and On/Off switch, lockable marine grade aluminum enclosure with exhaust fan(s) and optional heater, Type L copper suction/discharge piping with brass union connections and fittings, complete with Rain Bird's authorized factory startup.
- Horizontal, multistage, closed coupled centrifugal pump(s) with 316SS liquid end, mechanical shaft seal with both stationary and rotating seal faces constructed of silicon carbide with EPDM elastomers, cast iron motor adapter, coupled to a TEFC motor with variable frequency drive (VFD), PI controller, and user interface integrated into the motor housing providing discharge pressure set-point adjustment via plus/minus buttons, dry-run control, motor protection logic, and painted steel base plate.
- Dual pump station configuration ideal for irrigation applications with drip and spray zones coupled with 80 GPM or less rotor zones.

Operation Range

- Flow Range: 0 - 80 GPM
- Boost Range: 0 - 60 PSIG
- Maximum Operating Pressure: 145 PSIG
- Sound Pressure Level: ≤ 67 dB(A)

Electric Specifications

- Input Required: 60Hz
- 1 Phase 230V (½ - 3 hp)



● **CHIE Series VFD Pump**

● **CHIE Series Single VFD Pump Station**

Flow Range and Horsepower

Pump Model	Flow Range (GPM)	Boost Range (PSIG)	hp Range
Single Pump Stations			
CHIE-2 (1" NPT)	0 – 16	0 – 60	¾ - 1.5
CHIE-4 (1.25" NPT)	0 – 25	0 – 50	½ - 1.5
CHIE-8 (1.5" NPT)	0 – 40	0 – 30	1.5
Dual Pump Stations			
(2) CHIE-2 (1.5" NPT)	0 – 32	0 – 60	1.5 - 3
(2) CHIE-4 (2.0" NPT)	0 – 50	0 – 50	1 - 3
(2) CHIE-8 (2.0" NPT)	0 – 80	0 – 30	3

How To Specify

CHIE 4 - 60 - 2

- ***Number of Pumps*** *2*
- ***Stages*** *3*
- ***Flow*** *m³/hr*
- ***Model*** *CHIE*

● CU 321 Controller with 3hp VFD

Low Flow Irrigation and Water Features

Variable Frequency Drive (VFD) Pump Station with
4" Submersible Pump

- Constant pressure variable flow pump station with 4” submersible pump, CU321 controller with integral 3hp variable frequency drive, NEMA 4 control panel with fused main disconnect, lighting protection, prewired heater and fan circuits, and On/Off switch, lockable marine grade aluminum enclosure with exhaust fan and optional heater, 4 gallon diaphragm tank, pressure transducer, pressure relief valve, suction/discharge piping, complete with Rain Bird’s authorized factory startup.
- CU321 controller provides a LED user interface for discharge pressure setpoint adjustment, pump status, faults and alarm indication. Dry-Run control logic, motor temperature, voltage, and current protection, and NC/NO relay output.
- 4" submersible pump and motor with 304 stainless steel construction shipped loose for field installation.

Operation Range

- Flow Range: 0 - 75 GPM
- Boost Range: 0- 210 PSIG

Electric Specifications

- Input Required: 60Hz
- 1 Phase 230V Models (3hp)
- 3 Phase 230V Models (3hp)

Submersible Pump Dimensions

- Length 46.5” x Width 3.9” (16S30-24)
- Length 39.1” x Width 3.9” (25S30-15)
- Length 43.3” x Width 3.9” (40S30-9)
- Length 40.7” x Width 3.9” (75S30-5)

Flow Range and Horsepower

Pump Model	Flow Range (GPM)	Boost Range (PSIG)	hp Range
16S30-24 (1.25" NPT)	0 – 16	0 – 210	3
25S30-15 (1.5" NPT)	0 – 25	0 – 130	3
40S30-9 (2.0" NPT)	0 – 40	0 – 80	3
75S30-5 (2.0" NPT)	0 – 75	0 – 45	3

How To Specify

40 S - 30 - 9

- 40 — *Rated GPM* 40
- S — *Material of Construction* 304 Stainless Steel
- 30 — *hp* 3
- 9 — *Number of Pump Stages* 9

● 4" 304SS Submersible Pump and Motor

Plug-N-Pump

Integrated VFD Pump Station with Enclosure
Single Pump and Multi-Pump Stations

- Integrated pumping system with powder coated steel enclosure, available in single pump and multi-pump configurations, custom designed piping, alarm options, and other materials of construction available upon request.
- Plug-N-Pump delivers single source responsibility for the entire pumping system insuring trouble-free installation and operation.
- Enclosures sold separately for pump station retrofits, filtration systems, backflow, and pressure reducing stations.

Benefits

- Plug-N-Pump enclosures designed to accommodate the pump station, control panel, electrical, piping, and alarm systems with sufficient room to service pump(s) without removing or disassembling the enclosure or piping.
- Polyester based powder coating process provides superior UV degradation protection and enhanced surface scratch resistance.
- Plug-N-Pump enclosures deliver robust acoustical performance.
- Fork-Lift ports standard on the front and back sides on all Plug-N-Pump enclosures reducing site installation errors.
- Removable enclosure doors and panels with locking options to help deter vandalism.
- Integrated drainage ports designed to bypass the pump station's full capacity in case of piping failure insures the water level never exceeds 6 inches.
- Enclosure air intake ports positioned off the ground help reduce dirt and debris collection.
- Pump station suction and discharge piping receive on all surfaces an epoxy based cathodic electro-coating with zinc-phosphate pretreatment coating significantly reducing corrosion and extending pump station operational life.
- Multiple piping configurations available with the standard through the concrete pad or through the enclosure wall delivered NPT or ANSI flanged meeting the designer's specifications.
- Industrial grade, vertical multistage centrifugal pump(s) with cartridge style mechanical seal(s) permitting seal replacement without disassembling the pump, piping, or pump station enclosure.
- Plug-N-Pump systems delivered factory tested and configured for the irrigation system requirements decreasing pump station startup time.

Options

- External mounted visual and audible alarms.
- Lockable NEMA rated electrical disconnect box mounted on an outside enclosure wall.

Operation Range

- Flow Range: 0 - 2200 GPM
- Operational Voltage:
  - 208/230V/60hz/1-Phase
  - 208/230/460V/575/60Hz/3-Phase
- Temperature Range: 0°- 140° F

● **Plug-n-Pump - Single VFD Pump Configuration**

● **Plug-n-Pump - Enclosure**

● CRE-Series VFD Pump

Commercial Irrigation and Water Features

CRE Series (Single Variable Frequency Drive (VFD) Pump Stations)

- Pump station delivered as a complete package with 304SS pump base, custom piping, 4.4 gallon diaphragm tank, isolation valves, discharge check valve, discharge pressure transducer, dry-run protection, inlet/discharge pressure gauges, NEMA 3R panel with lighting protection, pump fault light, and On/Off switch, and marine grade aluminum enclosure with exhaust fan and optional heater.
- Vertical multistage, centrifugal pumps with e-coat cast iron casing, motor adapter, and staybolts, 304(SS) stainless steel impellers, chambers, and outer sleeve, 316SS pump shaft, and cartridge style mechanical seal.
- Twice the industry standard warranty with 24 months from installation or 30 months from date of purchase.

Benefits

- Variable frequency drive, PI controller, and user interface integrated into the TEFC motor housing providing discharge pressure set-point adjustment via plus and minus buttons.
- Site-serviceable cartridge type mechanical seal prevents removing or disassembling pump station enclosure or piping decreasing pump station downtime.
- Epoxy based cathodic electro-coating with zinc-phosphate pretreatment on all cast iron and ductile iron surfaces significantly reduces corrosion and mineral deposits compared to traditional exterior surface paint processes.

● Laser Welded 304SS Impellers

How To Specify

CRE 32 - 3 - 2

- **Model** CRE
- **Flow** m^3/hr
- **Stages** 3
- **Reduced Vane Stages** 2

● Cartridge Type Mechanical Seal

Operating Range

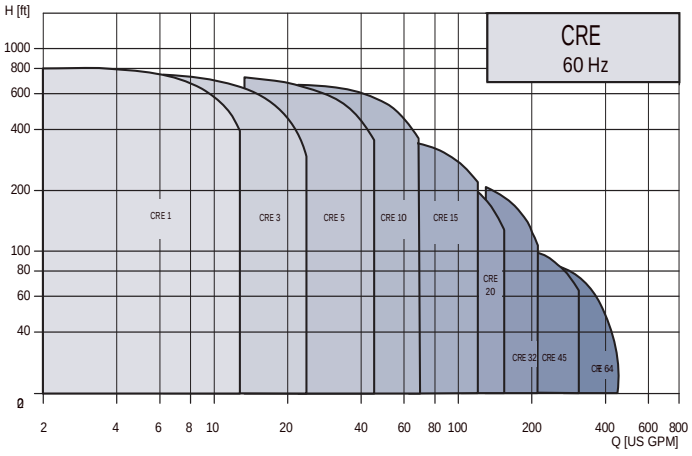
- Flow Range: 0 - 400 GPM
- Head Range: 0 - 800 ft
- hp Range: 1 - 10 hp
- Maximum Working Pressure: 360 PSIG

Electrical Specifications

- Input Required: 60 Hz
- 1 Phase 208V and 1 Phase 230 V (½ –1.5 hp models)
- 3 Phase 208/230/460/575 V (1.5 – 10 hp models)

Performance Range and Horsepower

Pump Model	Flow Range (GPM)	Horsepower Range
CRE 1	0 - 12	½ - 3
CRE 3	0 - 22	½ - 5
CRE 5	0 - 40	¾ - 7 1/2
CRE 10	0 - 60	¾ - 10
CRE 15	0 - 110	2 - 10
CRE 20	0 - 140	3 - 10
CRE 32	0 - 190	3 - 10
CRE 45	0 - 280	7 ½
CRE 64	0 - 400	7 ½



● **Full Surface Epoxy Coated Casing**

Commercial Irrigation and Water Features

Variable Frequency Drive (VFD) Multi-Pump Stations

- Custom designed multi-pump systems that maintain constant pressure for variable flow for booster, flooded suction, and suction lift applications.
- Single source manufacturing with 316SS suction and discharge headers, 304SS pump station skid and control panel stand, industrial grade vertical multi-stage centrifugal pumps, and the MPC advanced pump station controller.
- Twice the industry standard warranty at 24 months from start-up or 30 months from the date of shipment.

Benefits

- Site-serviceable cartridge style mechanical seal prevents removing or disassembling pump station enclosure, piping, or motor (if 15hp or greater) significantly reducing pump station downtime.
- Automatic pump start and cascade control rotation ensures evenly distributed run-time between all pumps, motors, and VFDs extending the pump station operational life.
- Stop Function ensures the pump automatically stops when flow drops below operator selected value. This feature assures the pump is not subject to overheating and the subsequent risk of shaft seal damage.
- Multi-pump system offers redundancy and back-up capabilities in the event of a pump failure.

Operating Range

- Flow Range: 0 - 2,200 GPM
- Head Range: 0 - 500 ft
- hp Range: 1 - 50 hp
- Maximum Working Pressure: 360 PSIG

Electrical Specifications

- Input Required: 60 Hz
  - 1 Phase 208/230 Volt
  - 3 Phase 208/230/460/575 Volt

How To Specify

VM 2 CRE 32 - 3 - 2

- ***Reduced Vane Stages*** *2*
- ***Stages*** *3*
- ***Flow*** *m^3/hr*
- ***Model*** *CRE*
- ***# Pumps*** *2*
- ***Type*** *Vertical Multistage Pump*

Flow Range and Horsepower

Number of Pumps	Pump Model	Flow Range (GPM)	hp Range	Manifold Size
2	CR 3	0 - 40	1 - 3	2" NPT
	CR 5	0 - 80	1½ - 5	2" NPT
	CR 10	0 - 120	1½ - 7½	2½" NPT
	CR 15	0 - 200	5 - 15	4" ANSI
	CR 20	0 - 260	5 - 15	4" ANSI
	CR 32	0 - 360	5 - 25	4" ANSI
	CR 45	0 - 560	7½ - 30	6" ANSI
	CR 64	0 - 800	7½ - 40	6" ANSI
	CR 90	0 - 1100	15 - 50	6" ANSI
3	CR 3	0 - 66	1 - 3	2" NPT
	CR 5	0 - 120	1½ - 5	2.5" NPT
	CR 10	0 - 180	1½ - 7½	3" NPT
	CR 15	0 - 320	5 - 15	4" ANSI
	CR 20	0 - 400	5 - 15	4" ANSI
	CR 32	0 - 600	5 - 25	6" ANSI
	CR 45	0 - 850	7½ - 30	6" ANSI
	CR 64	0 - 1200	7½ - 40	8" ANSI
	CR 90	0 - 1800	15 - 50	8"ANSI
4	CR 3	0 - 100	1 - 3	2.5" NPT
	CR 5	0 - 170	1½ - 5	3" NPT
	CR 10	0 - 240	1½ - 7½	4" ANSI
	CR 15	0 - 450	5 - 15	6" ANSI
	CR 20	0 - 550	5 - 15	6" ANSI
	CR 32	0 - 800	5 - 25	6" ANSI
	CR 45	0 - 1100	7½ - 30	8" ANSI
	CR 64	0 - 1600	7½ - 40	10" ANSI
	CR 90	0 - 2200	15 - 50	10" ANSI

● MPC Controller

● Three Pump VFD Station with MPC Controller

Suction Lift Components

Foot Valves, Self-Cleaning Baskets, and Float Assemblies
Pond and Wet-Well Suction Applications

- Aluminum foot valves available in 2", 3", 4", 6", and 8" sizes and in two configurations flanged or flanged on the discharge end with suction intake basket.
- Flanged self cleaning baskets available in 4", 6", and 8" sizes.
- Float assemblies available to accommodate 3", 4", 6", and 8" HDPE pipe complete with float, pipe hanger, and associated stainless steel hardware.

Benefits

- Vertical flanged foot valve with increased-area intake screen extends the foot valve maintenance interval and helps decrease pump station downtime.
- Float constructed of green high-density thermal plastic polyethylene exterior shell with a closed-cell polyethylene interior providing superior UV degradation protection with reduced mineral deposits.
- Self cleaning intake basket prevents dirt and algae build-up that can cause pump failure due to cavitation.

Suction Lift Component Part Numbers

- **Float Assemblies include: float, chain anchor plate, chain, stainless steel pipe hanger, and stainless steel hardware for attaching the chain to float and to the pipe.**
  - 3" Pipe Float Assembly: SLO3000FA
  - 4" Pipe Float Assembly: SLO4000FA
  - 6" Pipe Float Assembly: SLO6000FA
  - 8" Pipe Float Assembly: SLO8000FA
- **Foot valve with Intake Basket**
  - 2" Foot valve with Intake Basket: SLO65512F
  - 3" Foot valve with Intake Basket: SLO65103FI
  - 4" Foot valve with Intake Basket: SLO65114FI
  - 6" Foot valve with Intake Basket: SLO65126FI
  - 8" Foot valve with Intake Basket: SLO65138FI
- **Flanged Foot Valve**
  - 3" Flanged Foot Valve: SLO65143FV
  - 4" Flanged Foot Valve: SLO65154FV
  - 6" Flanged Foot Valve: SLO65166FV
  - 8" Flanged Foot Valve: SLO65178FV
- **Self-Cleaning Intake Basket**
  - 4" Self-Cleaning Intake Basket: SLO65184SB
  - 6" Self-Cleaning Intake Basket: SLO65196SB
  - 8" Self-Cleaning Intake Basket: SLO65508SB

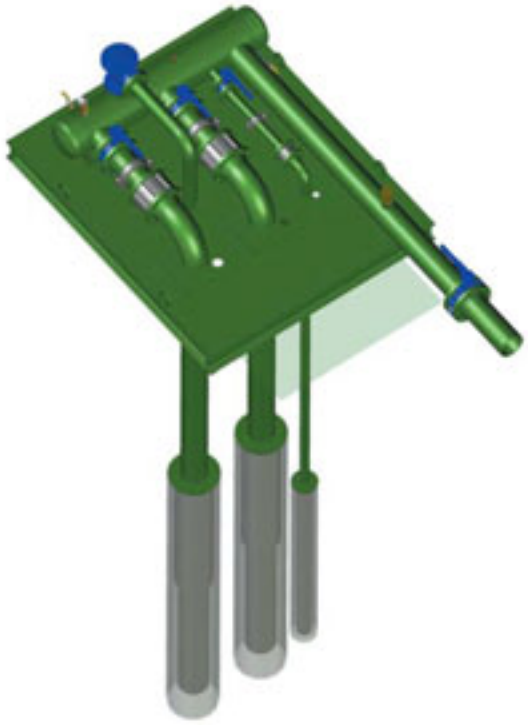
● **Self-Cleaning Intake Basket**

● **Foot Valve with Intake Basket**

● **Float**

Engineered Pumping Solutions - Irrigation

Variable Frequency Drive (VFD) and Constant Speed Systems



● Submersible VFD Pumping System with Remote Control Panel

- Engineered pumping systems designed, fabricated, and tested per customer specification in Rain Bird's Tucson, AZ pump station manufacturing facility offering submersible, end suction, and split-case pumping technologies with capacities up to 10,000 GPM.
- 3D solid modeling system insures precise pump station design and reliable field installations.
- Color, LCD, touch-screen interface standard feature on all pump stations provides a user friendly menu system enabling pressure and flow setting adjustments, displaying pump station performance, and alarm conditions.

Benefits

- Submersible pumps available with 304SS construction, 431SS pump shaft, and 3450/3525 RPM submersible motors providing enhanced corrosion resistance and extended operational life.
- Horizontal, double suction, split-case pumps with cast iron casing, bearing cover, and bearing bracket, bronze impeller, case wear rings, shaft sleeve, and bushings, carbon steel shaft, and Type 51 mechanical seals selected for water feature applications delivering superior hydraulic efficiencies with long-term energy and maintenance cost savings.
- End suction, close-coupled, centrifugal pumps with cast iron casing, and adapter, bronze shaft sleeve, adapter wear ring, and casing wear ring, silicon brass impeller, carbon steel pump shaft, and Type 21 mechanical seal insure industrial grade performance with reduced maintenance cost.

● Horizontal End Suction VFD System

● LCD touch-screen interface

Engineered Pumping Solutions - Water Features

● **Horizontal Split Case Dual Pump VFD System**

Vertical Turbine Pump Stations

Variable Frequency Drive (VFD) and Constant Speed Systems
Commercial Irrigation and Water Features

● Dual Vertical Turbine VFD System with Discharge Filtration

- Rain Bird's pump station manufacturing facility located in Tucson, Arizona delivers complete vertical turbine pumping solutions with onsite design, fabrication, and performance testing.
- 3D solid modeling system insures precise pump station design and reliable field installations.
- Color, LCD, touch-screen interface standard feature on all vertical turbine pump stations provides a user friendly menu system enabling pressure and flow setting adjustments, displaying pump station performance, and alarm conditions.

● LCD touch-screen interface

Benefits

- Pump station base, pipe, and fittings receive a 5-7 mil thick single layer polyester based powder coating process on all surfaces providing superior UV degradation protection and enhanced abrasion resistance.
- Cast iron pump bowls with enamel or epoxy lined waterways reduce friction losses, enhance wear protection, and maximize efficiency.
- Cast bronze enclosed type impellers machined, balanced, and trimmed for optimum performance.
- Cast iron pressure relief valves operating 7-10 PSIG above operating pressure providing quick opening and slow closing response minimizing surge installed on the discharge manifold.
- Carbon steel pump base with 1/2" deck plate, 4" and/or 6" channel construction providing rigidity to withstand operational stresses and insuring the pump shafts remain true in their vertical hanging orientation.
- Complete instrumentation and control system automatically starting, stopping, and modulating pump speed(s) to maintain constant discharge pressure with variable flow rates providing efficient and reliable performance.

● Three Vertical Turbine VFD System with Discharge Filtration

Benefits - Continued

- NEMA 4 rated electrical panel including circuit breakers, main disconnect interlocked with door, lead pump motor with dual contactors allowing operation with or without the VFD.
- Mitsubishi PLC with emergency mode allowing pumps to operate without touch screen control.
- Sealed cooling system designed to remove the heat generated by the variable frequency drive (VFD) via an air to water heat exchanger significantly extending the electronics operational life.
- Color Touch Screen Operator Interface (TSOI) provides access to all pump station information including logging, alarms, and current status readings. TSOI enables the user to select and change all pump and pressure settings while protecting the system from accidental programming errors by password protecting sensitive setup readings.

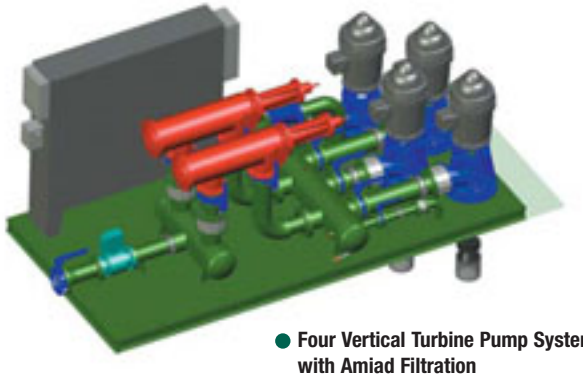
Features

- Cast iron discharge heads with 2 mil thick enamel coating, head-shaft coupled above the stuffing box assembly, and 125 lb. ANSI discharge flanges.
- 1800 RPM, NEMA B, squirrel cage induction motors with vertical hollow shafts, non-reverse ratchet, WPI enclosures, and rated for continuous duty.
- Submersible pressure maintenance/jockey pump maintaining system pressure during stand-by periods or quick coupler usage.
- Control software enables user access to all operational parameters. standard control features include emergency stop, low and high discharge pressure, low lake level, phase loss, low voltage, VFD fault, flow meter fault, and optional motor over temperature.
- TSOI default screen displays real-time and set point pressures, VFD speed %, flow, fault conditions, pump selected for VFD operation, and the pump(s) operational status.
- Rain Bird provides training for the end user on proper pump station operation after successfully completing installation, startup, and calibration.
- Complete annual preventative maintenance programs available combined with winterization services, 24/7 phone support, and local authorized service providers.

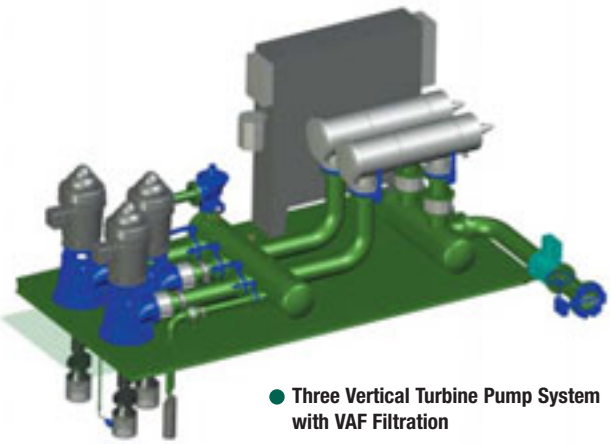
● **Polyester based powder coated intake screen**

Vertical Turbine Pump Station Configuration

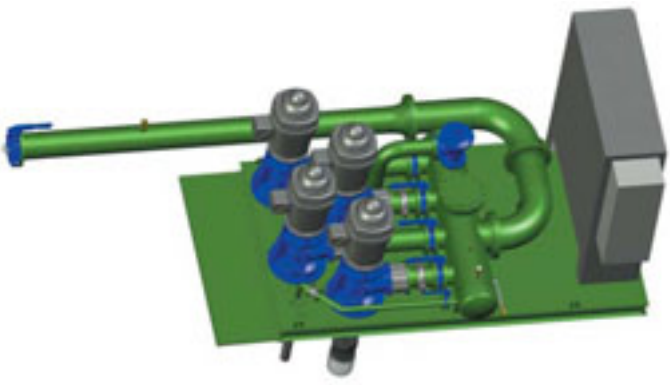
- (6) Vertical turbine pumps with configurations up to 100 hp per pump and a pressure maintenance pump
- Filtration options include sand media filters, automatic backwashing screen filters, and self-cleaning pump suction screens



● **Four Vertical Turbine Pump System with Amiad Filtration**



● **Three Vertical Turbine Pump System with VAF Filtration**



● **Four Vertical Turbine Pump System**

Pump Station Services

- Nationwide pump station service coverage.
- Factory trained authorized service provider for Rain Bird pump stations.
- Post-warranty services for all your pump needs.

The pump station's purchase price is a small component of the overall life cycle cost typically 15%. A key factor to maintaining your pump station investment is after-sale service and support. Rain Bird Services single source accountability begins with our skilled and experienced factory trained engineers and technicians located nationwide to meet your needs. Get a peace of mind knowing Rain Bird Services is just a call away to help ensure your pump station's long-term reliability.

Call Rain Bird Services Toll-Free (877) 840-7250

Services

- Facilities and capabilities for overhaul and repair
- Diagnostic Services & Repair
- Pump Start-Up
- Preventative Maintenance
- Emergency Repairs
- Support & Maintenance Plans
- Installation Support
- On-Site Training
- Winterization Service & Spring Start-Up
- Pump Equipment Evaluations

For additional information or pump services in your area, call Rain Bird Services toll-free (877) 840-7250.

Preventative Maintenance Plans

- M98600 Preventative Maintenance - 1 year
- M98700 Preventative Maintenance - 3 years
- M98400 Preventative Maintenance & On-site Training - 1 year
- M98500 Preventative Maintenance & On-site Training - 3 years
- M98200 Winter Shutdown/Spring Startup/Preventative Maintenance & On-site Training - 1 year
- M98300 Winter Shutdown/Spring Startup/Preventative Maintenance & On-site Training - 3 years
- M98000 Winter Shutdown/Spring Startup & Preventative Maintenance - 1 year
- M98100 Winter Shutdown/Spring Startup & Preventative Maintenance - 3 years

Xerigation® / Landscape Drip

Rain Bird's Xerigation® products are simple to use, reliable and durable, providing flexible and efficient low-volume irrigation.

The Rain Bird Xerigation system is the most efficient way to water any non-turf area including flower beds, ground cover, street medians, vegetable gardens, hanging baskets, and pots. Plants stay healthier and live longer because the exact amount of water they need is delivered at or near plant root zones. System benefits include design flexibility, elimination of over-spray, elimination of run-off, and greatly increased water efficiency. In addition to a complete line of systems components, Rain Bird offers tools and manuals to aid in design and installation.

Install Confidence®
Install Rain Bird® Xerigation®

Xerigation® Drip System Overview

Targeted Watering with Xerigation®

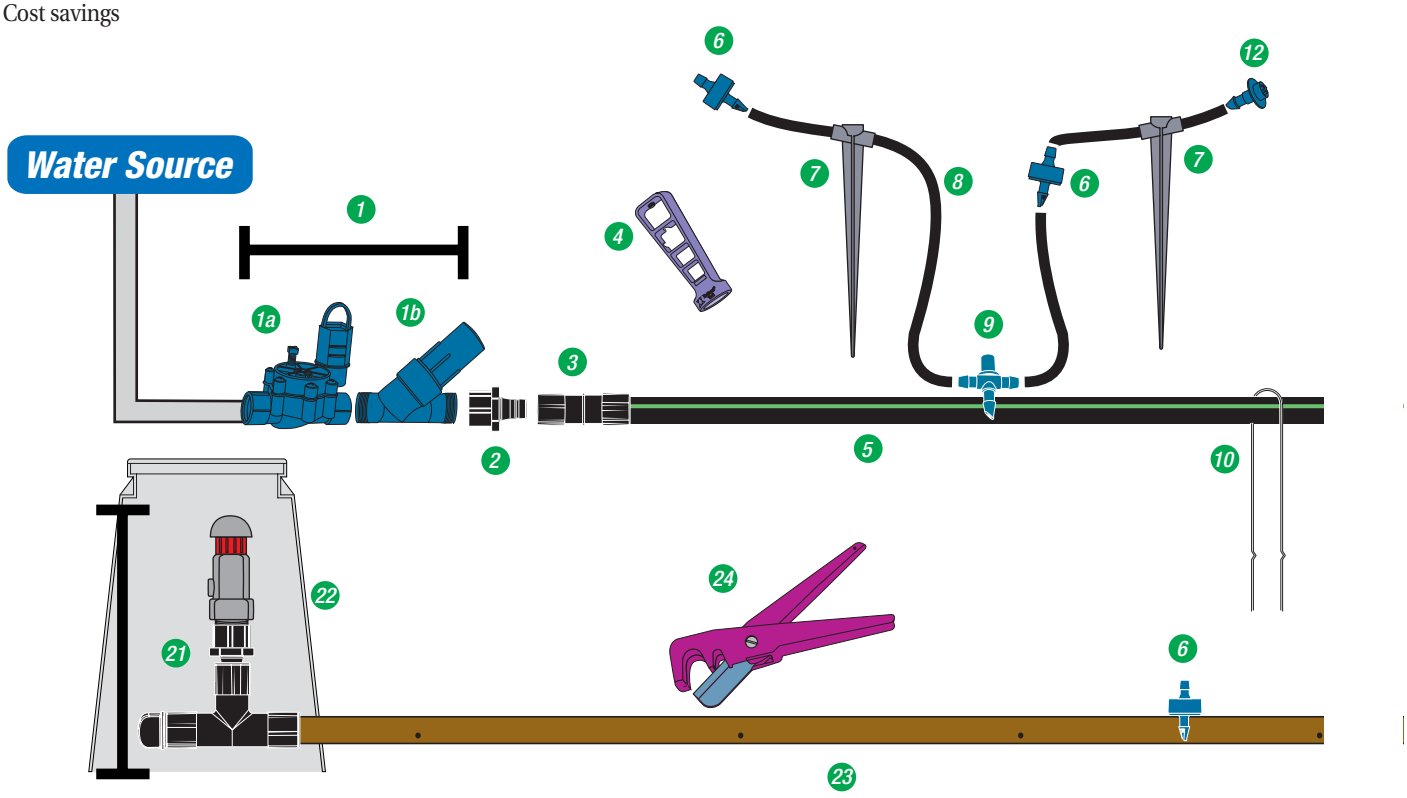
Rain Bird's Xerigation / landscape drip products are made especially for low-volume irrigation systems. By delivering water at or near the plants' root zones, Rain Bird's Xerigation products offer targeted watering with the following advantages:

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

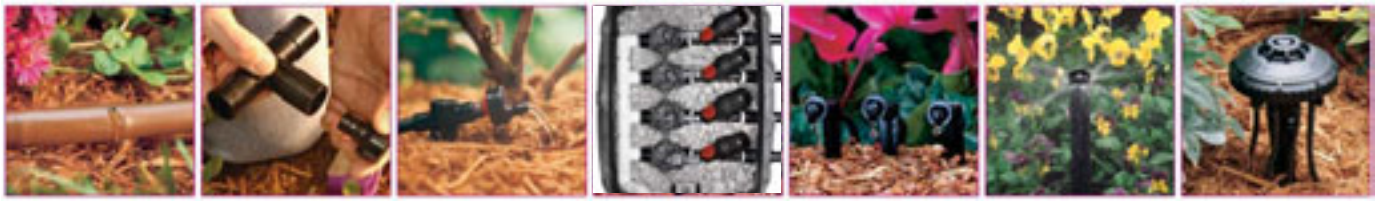
Solutions for Drip irrigation

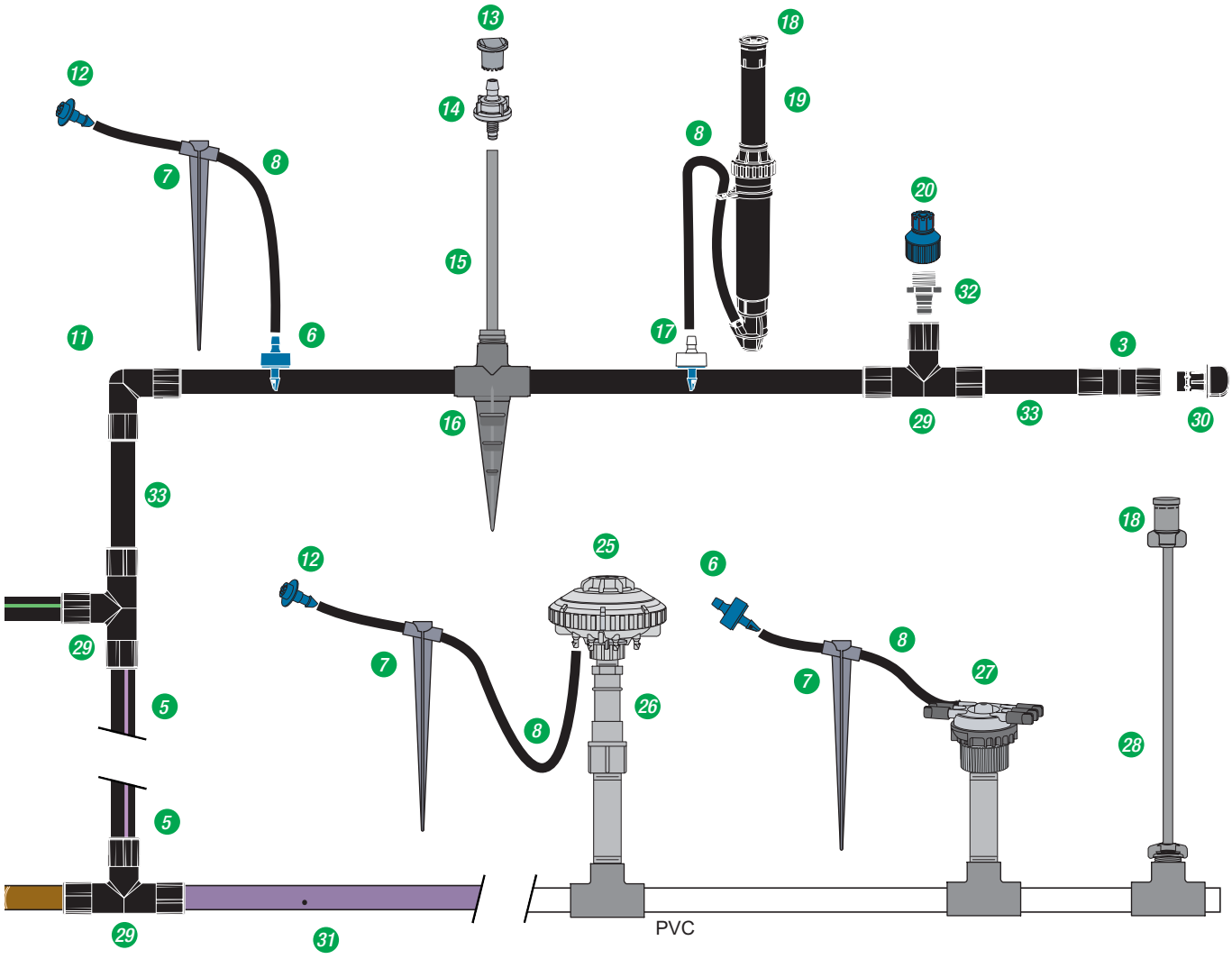
Rain Bird's Xerigation products offer the most solutions for drip irrigation. The product line consists of:

- Emission Devices – page 194
- Dripline – page 208
- Distribution Components – page 212
- Tools – page 220
- Control Zone Components – page 222



1. Control Zone Kit [p. 222]
   1a. Low Flow Valve [p. 230]
   1b. Pressure Regulating Filter [p. 231]
2. Easy Fit Female Adapter [p. 216]
3. Easy Fit Coupling [p. 216]
4. Xeriman Tool [p. 220]
5. Xeri-Black Stripe Tubing [p. 215]
6. Xeri-Bug Emitter [p. 194]
7. ¼" Tubing Stake [p. 206]
8. ¼" Tubing [p. 217]
9. ¼" Tee [p. 218]
10. Tie-Down Stake [p. 219]
11. Easy Fit Elbow [p. 216]
12. Diffuser Bug Cap [p. 206]
13. PC Emitter Diffuser Cap [p. 206]
14. PC Module [p. 198]
15. Poly Flex Riser Assembly [p. 207]
16. BIGIE Stake [p. 217]

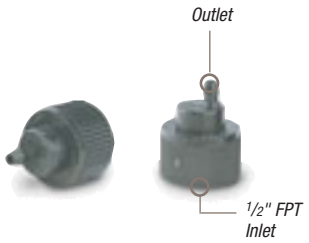




17. ¼" Self-Piercing Barb Connector [p. 218]
18. Xeri PC Nozzle [p. 200]
19. Xeri-Pop [p. 202]
20. Xeri-Bubbler [p. 203]
21. Air Relief Valve Kit [p. 212]
22. SEB-6X Emitter Valve Box [p. 219]
23. Xeri-Flex Dripline [p. 208]
24. Tubing Cutter [p. 220]
25. Xeri-Bird Pro [p. 197]
26. In-Stem Pressure Regulator [p. 235]
27. EMT-6XERI [p. 196]
28. Xeri PC Nozzle Adapter with PolyFlex Riser [p. 200]
29. Easy Fit Tee [p. 216]
30. Easy Fit Flush Cap [p. 216]
31. Purple Landscape Dripline [p. 210]
32. Easy Fit Male Adapter [p. 216]
33. XT-700 Distribution Tubing [p. 213]

● **XB-05PC, XB-10PC, XB-20PC**

● **XB-05PC-1032, XB-10PC-1032, XB-20PC-1032**
1032-threaded models are specifically designed to be used with PolyFlex Risers, 1032 thread adapters (1032-A), or 1800 Xeri-Bubbler Adapter (XBA-1800).



● **XBT-10-PC, XBT-20-PC**

How To Specify

XB - T - 05 - PC - 1032

- **Model** — Xeri-Bug
- **Optional** — ½" FPT inlet
- **Flow** — 05 = 0.5 GPH (1,89 l/h); 10 = 1.0 GPH (3,79 l/h); 20 = 2.0 GPH (7,57 l/h)
- **Pressure Compensating**
- **Optional** — 1032 threaded inlet

Xeri-Bug™ Emitters

Point-source low-flow emitters for watering the root zones of plants, trees, and container plants.

- The only emitters with self-piercing barbs, making them the easiest to install using the Xeriman™ tool.
- Widest selection of pressure-compensating emitters, with 3 flow rates and 3 inlet options.
- Most compact and unobtrusive emitters.

Features

- Flow-rates of 0.5, 1.0 and 2.0 GPH (1,89; 3,79 and 7,57 l/h).
- Pressure-compensating design delivers uniform flow throughout a wide pressure range (15 to 50 psi; 1,0 to 3,5 bars).
- Available with 3 different inlets (1.0 and 2.0 models):
  - Self-piercing barb for quick, one-step insertion into ½" or ¾" drip tubing
  - 10-32 threaded inlet that easily threads into a PolyFlex Riser (see page 207), 1032 Thread adapter (p. 207) or 1800 Xeri-Bubbler Adapter (p. 207).
  - ½" FPT inlet that easily threads onto a ½" PVC riser (1.0 and 2.0 GPH models.)
- Outlet barb securely retains ¼" distribution tubing (DT-025 or PT-025).
- Self-flushing action minimizes clogging.
- Robust design made from highly inert materials that are resistant to chemicals.
- Durable plastic construction is UV-resistant.
- Color-coded to identify flow rate (on XB-xx-PC and XB-xx-PC-1032 models).

Operating Range

- Flow: 0.5 to 2.0 GPH (1,89 to 7,57 l/h)
- Pressure: 15 to 50 psi (1,0 to 3,5 bars)
- Required Filtration: 150 to 200 mesh (75 to 100 micron) - see page 234.

Models: barb inlet x barb outlet

- XB-05PC (Blue) 0.5 GPH (1,89 l/h)
- XB-10PC (Black) 1.0 GPH (3,79 l/h)
- XB-20PC (Red) 2.0 GPH (7,57 l/h)

Models: 10-32 thread inlet x barb outlet

- XB-05PC-1032 (Blue) 0.5 GPH (1,89 l/h)
- XB-10PC-1032 (Black) 1.0 GPH (3,79 l/h)
- XB-20PC-1032 (Red) 2.0 GPH (7,57 l/h)

Models: ½" FPT inlet x barb outlet

- XBT-10PC (Black) 1.0 GPH (3,79 l/h)
- XBT-20PC (Black) 2.0 GPH (7,57 l/h)

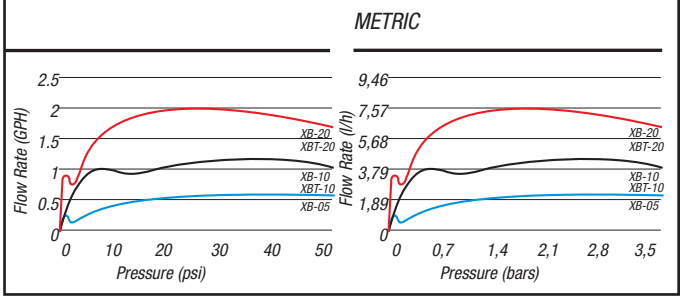
Xeri-Bug Emitter Specifications and Models

Model	Inlet Type/ Color	Nominal Flow GPH	Filtration Required mesh
XB-05PC	Barb/Blue	0.5	200
XB-10PC	Barb/Black	1.0	150
XB-20PC	Barb/Red	2.0	150
XB-05PC1032	10-32T/Blue	0.5	200
XB-10PC1032	10-32T/Black	1.0	150
XB-20PC1032	10-32T/Red	2.0	150
XBT-10PC	½" FPT/Black	1.0	150
XBT-20PC	½" FPT/Black	2.0	150

Xeri-Bug Emitter Specifications and Models METRIC

Model	Inlet Type/ Color	Nominal Flow l/h	Filtration Required micron
XB-05PC	Barb/Blue	1,89	75
XB-10PC	Barb/Black	3,79	100
XB-20PC	Barb/Red	7,57	100
XB-05PC1032	10-32T/Blue	1,89	75
XB-10PC1032	10-32T/Black	3,79	100
XB-20PC1032	10-32T/Red	7,57	100
XBT-10PC	½" FPT/Black	3,79	100
XBT-20PC	½" FPT/Black	7,57	100

Xeri-Bug Emitter Performance



● **10-32 threaded Xeri-Bug emiiter on PolyFlex Riser**

● **Rain Bird recommended application. Xeri-Bug™ Emitter, TS025-1/4" stake, and DBC025 Diffuser Bug Cap.**

Multi-Outlet Xeri-Bug™

Features

- Pressure compensating design delivers uniform flow throughout a wide pressure range (15 to 50 psi; 1,0 to 3,5 bars).
- Six-outlet emitter supplied with one outlet opened. Simply clip the outlet tips open with snips or clippers for additional operational ports.
- Barbed outlets retain ¼" distribution tubing (DT-025 or PT-025).
- Self-flushing action minimizes clogging.
- Durable, UV-resistant plastic housing.
- Color-coded for easy identification.

Operating Range

- Flow: 0.5, 1.0 or 2.0 GPH (1,89; 3,79 or 7,57 l/h)
- Pressure: 15 to 50 psi (1,0 to 3,5 bars)
- Filtration: 150-mesh (100-microns)

Models: barb inlet x barb outlet

- XB-05-6 (Blue) 0.5 GPH (1,89 l/h)
- XB-10-6 (Black) 1.0 GPH (3,79 l/h)
- XB-20-6 (Red) 2.0 GPH (7,57 l/h)

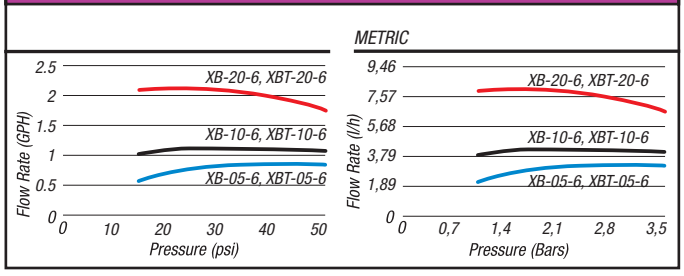
Models: ½" FPT inlet x barb outlet

- XBT-05-6 (Blue) 0.5 GPH (1,89 l/h)
- XBT-10-6 (Black) 1.0 GPH (3,79 l/h)
- XBT-20-6 (Red) 2.0 GPH (7,57 l/h)

● XB-05-6, XB-10-6, XB-20-6

● XBT-10-6, XBT-20-6, XBT-05-6

Multi-Outlet Xeri-Bug Emitter Performance



6 Outlet Manifold - EMT-6XERI

Features

- ½" FPT inlet threads onto ½" riser and provides a manifold with six free-flowing ¼" barb outlets.
- Each barb outlet is sealed with a durable plastic cap.
- Plastic caps remove easily, allowing for a drip area that can be customized with up to six different emission devices.
- Attach ¼" distribution tubing (DT-025 or PT-025) onto each outlet for use with: Xeri-Bugs, PC Modules, Xeri-Pops, Xeri-Sprays, and Xeri-Bubblers.

Operating Range

- Pressure: 15 to 50 psi (1,0 to 3,5 bars)

Model

- EMT-6XERI

● EMT-6XERI

● EMT-6XERI Manifold with ¼" tubing

Xeri-Bird™ 8 Multi-Outlet Emission Device

The most flexible and feature-rich multi-outlet device on the market, ideal for new projects and retrofit applications.

- The only multi-outlet device on the market with 8 configurable ports and 10 flow options for each port for maximum flexibility.
- XBD-80 and XBD-81 models each contain a built-in filter. Makes retro-fitting easy when installed with the optional in-stem pressure regulator (PRS-050 p. 235).
- Easy to maintain, because body can be easily removed from riser.

Features

- Threads onto any ½" riser and delivers water to multiple locations for increased system flexibility.
- Each port accepts a Xeri-Bug™ emitter or PC Module for independent flows from 0.5 to 24 GPH (1,89 to 90,84 l/h) or use a self-piercing barb connector (SPB-025) for unrestricted flow.
- XBD-80 and XBD-81 models each feature an integral 200 mesh (75 micron) filter which is easily serviceable from the top of the unit.
- Eight bottom-mounted, sure-grip barbed outlets securely retain ¼" distribution tubing (DT-025 or PT-025).
- Unique union base nut allows removal of Xeri-Bird 8 body from riser for easy installation and maintenance.

Operating Range

- Flow: 0 to 24 GPH (0 to 90,84 l/h) per outlet (or use SPB-025 for unrestricted flow)
- Pressure: 15 to 50 psi (1,0 to 3,5 bars)

Models

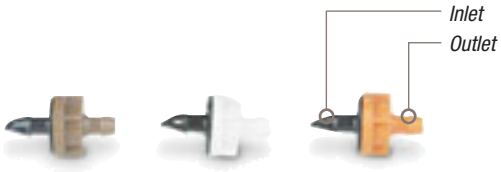
- XBD-80: Xeri-Bird 8 unit (includes 7 removable port plugs and filter)
- XBD-81: Xeri-Bird 8 unit (includes eight 1 GPH (3,79 l/h) Xeri-Bug emitters factory installed, and filter)
- XBD-PRO: Xeri-Bird 8 unit (includes 7 removable port plugs; no filter.
- XBD-8-SCREEN: Xeri-Bird 8 filter.

● **XBD-80**

● **XBD-80 with 5 Xeri-Bugs and in-stem regulator shown installed (order Xeri-Bugs and In-stem Pressure Regulator separately)**

● **Internals of Xeri-Bird Pro with Xeri-Bugs**

● **PC-05, PC-07, PC-10**



● **PC-12, PC-18, PC-24**

● **PC-05-1032, PC-07-1032, PC-10-1032**
1032-threaded models are specifically designed to be used with PolyFlex Risers, 1032 thread adapters (1032-A), or 1800 Xeri-Bubbler Adapter (XBA-1800).

● **PC Diffuser**
PC Diffuser Caps are designed to fit onto outlet of pressure compensating drip emitters.

How To Specify

PC - 05 - 1032

Optional
1032 threaded inlet

Flow
5 GPH (18,93 l/h)
7 GPH (26,50 l/h)
10 GPH (37,85 l/h)
12 GPH (45,42 l/h)
18 GPH (68,13 l/h)
24 GPH (90,84 l/h)

Model
PC: Pressure-Compensating Module

Pressure-Compensating Modules

Point-source medium-flow emitters for watering larger shrubs and trees, and for precisely regulating water flow to Xeri-Bubblers and Xeri-Sprays.

- The only emitters with self-piercing barbs, making them the easiest to install using the Xeriman™ tool.
- Widest selection of pressure-compensating emitters, with 6 flow rates and 2 inlet options.
- Most compact and unobtrusive emitters.

Features

- Flow-rates from 5 to 24 GPH (18,93 to 90,84 l/h).
- Pressure-compensating design delivers uniform flow throughout a wide pressure range (10 to 50 psi; 0,7 to 3,5 bars).
- Available with 2 different inlets:
  - Self-piercing barbs for quick one-step emitter insertion into ½" or ¾" drip tubing
  - 10-32 threaded inlet that easily threads into a polyflex riser (see page 207), 10-32 Thread adapter (p. 207) or 1800 Xeri-Bubbler Adapter (p. 207).
- Inlet and outlet barbs securely retain ¼" distribution tubing (DT-025 or PT-025).
- Robust design - durable plastic construction is UV-resistant.
- Made from highly inert materials that are resistant to chemicals.
- Color-coded outlet identifies flow rate.

Operating Range*

- Flow: 5 to 24 GPH (18,93 to 90,84 l/h)
- Pressure: 10 to 50 psi (0,7 to 3,5 bars)
- Required Filtration: 100-mesh (150-micron)

* *Use a PC Diffuser Cap to eliminate squirting water when using a PC Module staked at the end of 1/4" distribution tubing (DT-025 or PT-025) or on a PolyFlex Riser (PFR/FRA).*

Models: barb inlet x barb outlet

- PC-05: (Light brown) 5 GPH (18,93 l/h)
- PC-07: (Violet) 7 GPH (26,50 l/h)
- PC-10: (Green) 10 GPH (37,85 l/h)
- PC-12: (Dark brown) 12 GPH (45,42 l/h)
- PC-18: (White) 18 GPH (68,13 l/h)
- PC-24: (Orange) 24 GPH (90,84 l/h)

Models: 10-32 thread inlet x barb outlet

- PC-05-1032: (Light brown) 5 GPH (18,93 l/h)
- PC-07-1032: (Violet) 7 GPH (26,50 l/h)
- PC-10-1032: (Green) 10 GPH (37,85 l/h)

Models: PC Diffuser Caps

(see page 206 for complete information)

- PC Diffuser (Black)
- PC-DIFF-PPL (Purple, to designate non-potable water)

● **PC Module with PC Diffuser Cap on PolyFlex Riser**

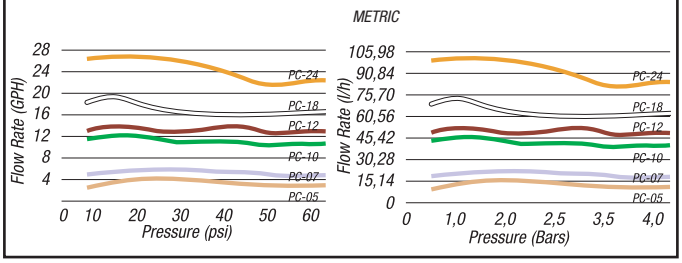
Pressure-Compensating Module Models

Model	Inlet Type/ Outlet/Color	Nominal Flow GPH	Filtration Required mesh
PC-05	Barb / light brown	5	100
PC-07	Barb / violet	7	100
PC-10	Barb / green	10	100
PC-12	Barb / dark brown	12	100
PC-18	Barb / white	18	100
PC-24	Barb / orange	24	100
PC-05-1032	10-32T / light brown	5	100
PC-07-1032	10-32T / violet	7	100
PC-10-1032	10-32T / green	10	100

Pressure-Compensating Module Models METRIC

Model	Inlet Type/ Outlet/Color	Nominal Flow l/h	Filtration Required mesh
PC-05	Barb / light brown	18,93	150
PC-07	Barb / violet	26,50	150
PC-10	Barb / green	37,85	150
PC-12	Barb / dark brown	45,42	150
PC-18	Barb / white	68,13	150
PC-24	Barb / orange	90,84	150
PC-05-1032	10-32T / light brown	18,93	150
PC-07-1032	10-32T / violet	26,50	150
PC-10-1032	10-32T / green	37,85	150

Pressure-Compensating Modules Performance



● Xeri-Pressure Compensating Nozzles

● Xeri-Pressure Compensating Nozzle installed on PolyFlex Riser with Nozzle Adapter

Xeri-Pressure Compensating Nozzle

NEW

The most precise and efficient, low-volume spray solution for irrigation of small areas with dense plantings.

- Pressure compensation and square spray pattern offer increased efficiency and control, reducing overspray, property damage and liability.
- Unique edge to edge capability reduces the number of nozzles needed, which decreases cost and dramatically reduces installation time.
- Simplify design and installation with the flexibility of applications—one nozzle throws 2.5' or 4' (0,8 m or 1,2 m) and can be used on a variety of spray heads and risers.

Features

- Pressure compensation design delivers uniform flow over the pressure range.
- Available in 3 models—Quarter, Half and Full patterns with matched precipitation rate.
- Square spray pattern with edge-to-edge coverage allows you to easily design and install in small spaces.
- Compatible with all 1800 Sprays, Xeri-Pops, New PolyFlex Riser Adapter, UNI-Spray and SCH 80 risers.
- Virtual no-mist performance from 20 psi to 50 psi.
- 2 throw distances in each nozzle. One simple click lets you adjust from 2.5' to 4' (0,8 m or 1,2 m).
- PolyFlex Riser adapter sold with either 12" or 24" PolyFlex Riser.
- 100 mesh filtration required.

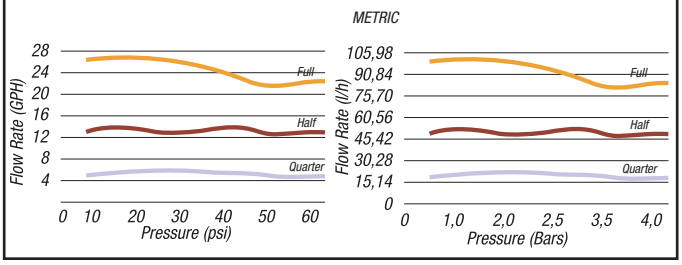
Operating Range

- Pressure: 20 to 50 psi (1,4 to 3,5 bars)
- Flow Rates: 6, 12 and 24 GPH (22,7, 45,4 and 90,8 l/h)
- Required Filtration: 100 mesh (150 micron)

Models

- XPCN QTR – Xeri Pressure Compensating Nozzle, Quarter Pattern
- XPCN HLF - Xeri Pressure Compensating Nozzle, Half Pattern
- XPCN FUL - Xeri Pressure Compensating Nozzle, Full Pattern
- XPCN ADP12 – Xeri Pressure Compensating Nozzle Adapter with 12" PolyFlex Riser
- XPCN ADP24 - Xeri Pressure Compensating Nozzle Adapter with 24" PolyFlex Riser

Xeri-Pressure Compensating Nozzle Performance



Xeri-Pressure Compensating Nozzle Performance

2.5 feet throw @ 6" height above grade

Nozzle	Pressure psi	Throw Radius ft.	Flow GPH	Precip. Rate w/no overlap in/h
Q	20	2.5	6.4	1.64
	30	2.5	7.4	1.90
	40	3.0	7.4	1.32
	50	3.0	7.4	1.32
H	20	2.5	10.2	1.31
	30	2.5	12.2	1.57
	40	3.0	13.7	1.22
	50	3.0	13.7	1.22
F	20	2.5	20.0	1.28
	30	2.5	24.2	1.55
	40	3.0	27.3	1.22
	50	3.0	27.3	1.22

Xeri-Pressure Compensating Nozzle Performance — METRIC

0,8 m throw @ 0,15 m height above grade

Nozzle	Pressure bars	Throw Radius m.	Flow LPH	Precip. Rate w/no overlap mm/h
Q	1,4	0,8	24	42
	2,1	0,8	28	48
	2,8	0,9	28	34
	3,4	0,9	28	34
H	1,4	0,8	39	33
	2,1	0,8	46	40
	2,8	0,9	52	31
	3,4	0,9	52	31
F	1,4	0,8	76	33
	2,1	0,8	92	39
	2,8	0,9	103	31
	3,4	0,9	103	31

Xeri-Pressure Compensating Nozzle Performance

4 feet throw @ 6" height above grade

Nozzle	Pressure psi	Throw Radius ft.	Flow GPH	Precip. Rate w/no overlap in/h
Q	20	4.0	6.4	0.64
	30	4.0	7.4	0.74
	40	4.5	7.4	0.59
	50	4.5	7.4	0.59
H	20	4.0	10.2	0.51
	30	4.0	12.2	0.61
	40	4.5	13.7	0.54
	50	4.5	13.7	0.54
F	20	4.0	20.0	0.50
	30	4.0	24.2	0.61
	40	4.5	27.3	0.54
	50	4.5	27.3	0.54

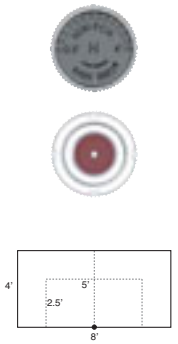
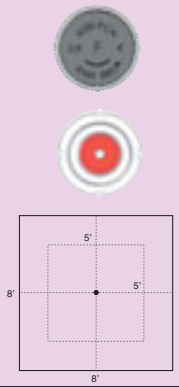
Xeri-Pressure Compensating Nozzle Performance — METRIC

1,2 m throw @ 0,15 m height above grade

Nozzle	Pressure psi	Throw Radius ft.	Flow LPH	Precip. Rate w/no overlap mm/h
Q	1,4	1,2	6	16
	2,1	1,2	7	19
	2,8	1,4	7	15
	3,4	1,4	7	15
H	1,4	1,2	10	13
	2,1	1,2	12	16
	2,8	1,4	14	14
	3,4	1,4	14	14
F	1,4	1,2	20	13
	2,1	1,2	24	15
	2,8	1,4	27	14
	3,4	1,4	27	14

Performance data taken in zero wind conditions.

Xeri-Pressure Compensating Nozzles

Quarter Model	Half Model	Full Model
		

Xeri-Pop™ Micro-Spray

The Xeri-Pop™ micro-spray makes it easy to integrate a durable micro-spray into a low-volume irrigation design. The Xeri-Pop is also ideal for applications that require flexibility and ease of installation.

- The only pop-up spray that works in low-volume low-pressure application, and this is the perfect solution to vandal-prone areas.
- Xeri-Pops can be installed and located in nearly any location and are ideal for small, odd-shaped planting beds; the 12" version is perfect for annual flower beds.
- Xeri-Pops work with Rain Bird's 5' and 8' MPR nozzles and Xeri PC nozzles — nozzles with square spray patterns and adjustable throws of 2.5' and 4'.

Features

- The Xeri-Pop can operate with 20 to 50 psi base pressure when water is supplied via ¼" distribution tubing (DT-025 or PT-025).
- The flexibility of ¼" tubing allows the Xeri-Pop to be easily located and relocated as planting conditions dictate.
- A durable, plastic snap-collar (on 4" and 6" models) secures the ¼" tubing to the outside of the Xeri-Pop case.
- The Xeri-Pop's ¼" distribution tubing can readily connect to ½" or ¾" polyethylene tubing or to a multi-outlet manifold (EMT-6XERI). Connections to polyethylene tubing are accomplished with either an SPB-025 ¼" self-piercing barb connector or an XBF1CONN ¼" barb connector.
- External parts are UV-resistant
- Available in 4", 6" and 12" pop-up heights.

Operating Range

- Pressure: 20 to 50 psi (1,4 to 3,5 bars)
- Filtration: Depends on Nozzle used with Xeri-Pop

How To Specify

XP - 600X

Model
Xeri-Pop

Pop-Up Height
400X = 4" Pop-up
600X = 6" Pop-up
1200X = 12" Pop-up

Always install a PCS-010, -020, 030, or -040 Pressure-Compensating Screen whenever a 5B Bubbler Nozzle is installed on a Xeri-Pop.

Models

- XP-400X: 4-inch pop-up
- XP-600X: 6-inch pop-up
- XP-1200X: 12-inch pop-up

Nozzle Options

- Xeri PC nozzles (p. 200)
- 5 Series MPR nozzle (all configurations)
- 5 Series plastic bubbler
- 8 Series MPR nozzle (8H, 8T and 8Q)

12" Xeri-Pop in planting bed

XP-600X

XP-1200X

Xeri-Bubblers™

Ideal for shrub plantings, trees, containers, and flower beds.

Features

- Adjust flow and radius by turning outer cap.
- Clean by completely unscrewing cap from base unit.
- Three convenient installation connections available for design flexibility: 10-32 self-tapping thread, ¼" barb, and 5" spike.

Operating Range

- SXB Series Flow: 0 to 13 GPH (0 to 49,21 l/h)
- UXB Series Flow: 0 to 35 GPH (0 to 132,48 l/h)
- Pressure: 15 to 30 psi (1,0 to 2,1 bars)

Models

- SXB-180-1032: Half-circle, 5 streams, 10-32 thread
- SXB-180-025: Half-circle, 5 streams, ¼" barb
- SXB-180-SPYK: Half-circle, 5 streams, 5" spike; includes barb x barb coupler
- SXB-360-1032: Full-circle, 8 streams, 10-32 thread
- SXB-360-025: Full-circle, 8 streams, ¼" barb
- SXB-360-SPYK: Full-circle, 8 streams, 5" spike includes barb x barb coupler
- UXB-360-1032: Full-circle, umbrella, 10-32 thread
- UXB-360-025: Full-circle, umbrella, ¼" barb
- UXB-360-SPYK: Full-circle, umbrella, 5" spike includes barb x barb coupler

Xeri-Bubbler Performance

Fully open (approximately 22 clicks)

Pressure psi	SXB-180 Flow GPH	Radius of Throw ft.	SXB-360 Flow GPH	Radius of Throw ft.	UXB-360 Flow GPH	Radius of Throw ft.
15	8.7	1.2	8.7	0.6	28.5	0.7
20	10.3	1.5	10.3	1.0	31.0	1.1
30	13.0	2.0	13.0	1.5	35.0	1.9

Xeri-Bubbler Performance — METRIC

Fully open (approximately 22 clicks)

Pressure bars	SXB-180 Flow l/h	Radius of Throw m.	SXB-360 Flow l/h	Radius of Throw m.	UXB-360 Flow l/h	Radius of Throw m.
15	32,93	0,4	32,93	0,2	107,87	0,2
20	38,99	0,5	38,99	0,3	117,34	0,3
30	49,21	0,6	49,21	0,5	132,48	0,6

● SXB-180-025 SXB-360-025 UXB-360-025
BARB

● SXB-180-1032 SXB-360-1032 UXB-360-1032
10-32 threads

● SXB-180-SPYK SXB-360-SPYK UXB-360-SPYK
"SPIKE"

How To Specify

SXB - 180 - 1032

Connection
1032: 10-32 self-tapping thread
025: ¼" barb
SPYK: 5" spike

Pattern
180 = Half circle
360 = Full circle

Model
SXB: Stream Bubbler
UXB: Umbrella Bubbler

Xeri-Sprays™ and Misters

Ideal for ground cover, mass plantings, annual flower beds, and containers.

Features

- Adjust flow/radius by turning integral ball valve.
- Uniform emission pattern provides excellent distribution.
- 10-32 self-tapping threads fit into ½" x 10-32 adapter (10-32A); 1800 Xeri-Bubbler™ adapter (XBA-1800); and PolyFlex Riser (PFR-12).

Operating Range

- Flow: 0 to 31 GPH (0 to 117,34 l/h)
- Pressure: 10 to 30 psi (0,75 to 2,1 bars)
- Radius: 0 to 13.4 feet (0 to 4,1 m) full-circle; 0 to 10.6 feet (0 to 3,2 m) quarter- and half-circle

Models

- XS-090: Quarter-circle, spray
- XS-180: Half-circle, spray
- XS-360: Full-circle, stream spray
- X360 ADJMST

Xeri-Spray™ 360° True Spray

Ideal for mass plantings, ground cover, annual flower beds and containers.

Features

- True micro-spray with full-circle fan spray pattern.
- Adjust flow/radius by turning outer cap.
- Three convenient installation connections for design flexibility: 10-32 self-tapping thread, ¼" barb and 5" spike.
- Easily cleaned by completely unscrewing cap from base unit.

Operating Range

- Flow: 0 to 24.5 GPH (0 to 92,7 l/h)
- Pressure: 15 to 30 psi (1,0 to 2,1 bars)
- Radius: 0 to 6.7 feet (0 to 2,0 m)

Models

- XS-360TS-1032: 10-32 threads
- XS-360TS-025: ¼" barb
- XS-360TS-SPYK: 5" spike; includes barb x barb coupler

● 360 ADJMST

● XS-090

● XS-180

● XS-360

● XS-360TS-025

● XS-360TS-1032

● XS-360TS-SPYK

Xeri-Sprays™ and Misters Performance

Pressure psi	Flow GPH	XS-90 Radius of Throw ft.	XS-180 Radius of Throw ft.	XS-360 Radius of Throw ft.	360 Mister Radius of Throw ft.
10	0-16.7	0-6.4	0-6.7	0-9.2	0-1.5
15	0-21.0	0-8.1	0-8.1	0-11.3	0-1.3
20	0-24.5	0-9.4	0-9.5	0-12.9	0-1.5
25	0-28.0	0-9.8	0-10.1	0-13.2	0-1.4
30	0-31.0	0-10.3	0-10.6	0-13.4	0-1.3

Xeri-Sprays™ and Misters Performance — METRIC

Pressure bars	Flow l/h	XS-90 Radius of Throw m.	XS-180 Radius of Throw m.	XS-360 Radius of Throw m.	360 Mister Radius of Throw m.
0,7	0-63,21	0-2,0	0-2,0	0-2,8	0-0,46
1,0	0-79,49	0-2,5	0-2,5	0-3,4	0-0,40
1,4	0-92,73	0-2,9	0-2,9	0-3,9	0-0,44
1,7	0-105,98	0-3,0	0-3,1	0-4,0	0-0,43
2,1	0-117,34	0-3,1	0-3,2	0-4,1	0-0,40

Xeri-Spray 360° True Spray Performance

Fully open (approximately 22 clicks)

Pressure psi	Flow GPH	Radius of Throw ft
15	0-17.3	0-4.7
20	0-19.8	0-5.6
30	0-24.5	0-6.7

Xeri-Spray 360° True Spray Performance — METRIC

Fully open (approximately 22 clicks)

Pressure bars	Flow l/h	Radius of Throw m.
1,0	65,48	0-1,4
1,4	79,94	0-1,7
2,1	92,73	0-2,0

Diffuser Bug Cap

Features

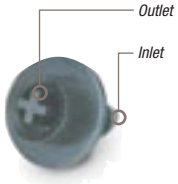
- Prevents bugs and other debris from clogging ¼" distribution tubing.
- Barbed inlet fits into ¼" distribution tubing (DT-025 or PT-025).
- Flanged shield diffuses water to minimize soil erosion at emission point.

Operating Range

- Pressure: 0 to 50 psi (0 to 3,5 bars)

Models

- DBC-025 (Black)
- DBC-025-PPL (Purple, to designate non-potable water)



● DBC-025

● DBC-025-PPL

PC Diffuser Cap

Features

- Cap snaps securely onto the PC Module outlet to create bubbler effect and prevent wash out.
- Designed for quick and easy installation.
- Made of UV-resistant polyethylene material.

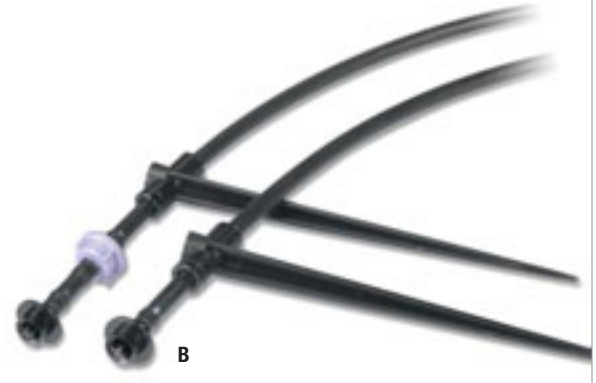
Models

- PC Diffuser (Black)
- PC-DIFF-PPL (Purple, to designate non-potable water)

● PC Diffuser

● PC-DIFF-PPL

Suggested Applications



● **A. ¼" tubing, ¼" stake, PC Module, Diffuser Bug Cap. Used for runs greater than 5 feet from main line.**

B. ¼" tubing, ¼" stake, Diffuser Bug Cap. Used for runs up to 5 feet from main line.

(Drip emitter not shown – installed directly into lateral line).

¼" Tubing Stake

Features

- Holds ¼" distribution tubing and emitter or Diffuser Bug Cap in place at the root zone of the plant.
- Accepts ¼" distribution tubing with 0.16" ID and 0.22" OD, including Rain Bird's ¼" tubing (DT-025 or PT-025).
- Rigid stake makes installation easier in hard soils.

Note: If emitter is installed at inlet to distribution tubing, use a Diffuser Bug Cap (DBC-025) at outlet of tubing to prevent bugs from clogging tubing and to help hold tubing in place

Model

- TS-025

● TS-025

¼" Tubing Stake with Cap

Features

- Locking cap holds tubing in place.
- Used for holding ¼" distribution tubing (DT-025 or PT-025) in place at the plant root zone.
- Accepts ¼" distribution tubing from .19 (O.D.) to .256 (O.D.).
- Bug cap included.
- Constructed of UV-resistant plastic material.

Model

- TS-025WCAP

● TS-025WCAP

12" PolyFlex Riser

Features

- 12" riser that is used with any 10-32 threaded emission device to deliver water directly to a plant. These include Xeri-Bugs, PC Modules, Xeri-Bubblers and Xeri-Sprays.
- Extremely rugged and reliable – constructed of thick-walled, high-density polyethylene.
- Can be used with a riser-stake (RS-025T).

Operating Range

- Pressure: 15 to 50 psi (1,0 to 3,5 bars)

Model

- PFR-12

● **PFR-12**

PolyFlex Riser and Adapter Assemblies

Features

- 12" or 24" riser that is pre-assembled with a ½" male threaded base that simplifies installation.
- Use with any 10-32 threaded emission device to deliver water directly to a plant. These include Xeri-Bugs, PC Modules, Xeri-Bubblers and Xeri-Sprays.
- Newly-designed adapter with larger tabs makes installation quicker and easier; can be used on PVC laterals, or with any ½" female threaded adapter.
- Adapter made of heavy-duty Marlex®, which requires no Teflon® tape, saving time during installation.
- Extremely rugged and reliable PolyFlex Riser constructed of thick-walled, high-density polyethylene.

Operating Range

- Pressure: 15 to 50 psi (1,0 to 3,5 bars)

Models

- PFR-FRA 12" (30,5 cm) PolyFlex Riser and adapter
- PFR-FRA24 24" (61,0 cm) PolyFlex Riser and adapter

● **PFR-FRA**

PolyFlex Riser and Stake Assembly

Features

- 12" riser that is pre-assembled with a 7" (30,5 cm) stake.
- Use with any 10-32 threaded emission device to deliver water directly to a plant. These include Xeri-Bugs, PC Modules, Xeri-Bubblers and Xeri-Sprays.
- Saves time and money when installing a low-volume irrigation system.
- Extremely rugged and reliable PolyFlex Riser constructed of thick-walled, high-density polyethylene.

Operating Range

- Pressure: 15 to 50 psi (1,0 to 3,5 bars)

● **PFR-RS**

Model

- PFR-RS: 12" (30,5 cm) PolyFlex Riser and 7" (30,5 cm) stake

Riser Stake-Threaded

Features

- Rugged stake for use with PolyFlex Risers
- Constructed of UV-resistant plastic material.
- Barbed side inlet accepts ¼" distribution tubing (DT-025 or PT-025).
- 10-32 threaded outlet permits easy threading of 12" (30,5 cm) PolyFlex Riser (PFR-12).

Operating Range

- Pressure: 0 to 50 psi (0 to 3,5 bars)

Model

- RS-025T

● **RS-025T**

10-32 Thread Adapter

Features

- Inlet: ½" FPT that screws onto any ½" MPT riser.
- Outlet: 10-32 threads that accept Xeri-Bugs, PC Modules, Xeri-Bubblers and Xeri-Sprays with 10-32 threads.
- Constructed of UV-resistant plastic material.

Operating Range

- Pressure: 0 to 50 psi (0 to 3,5 bars)

Model

- 10-32A

● **10-32A**

1800 Xeri-Bubbler Adapter

Features

- Inlet: ½" female threads that screw onto a Rain Bird 1800 series or UNI-spray pop-up spray head or shrub adapter.
- Outlet: 10-32 threads that accept any emission device with 10-32 threads including Xeri-Bugs, PC Modules, Xeri-Bubblers and Xeri-Sprays.
- Sits at grade when installed on a spray head for a robust installation.

Operating Range

- Pressure: 15 to 50 psi (1,0 to 3,5 bars)

Model

- XBA-1800

● **XBA-1800**

● Xeri-Flex Dripline

● Xeri-Flex Dripline offers increased flexibility for easy installation.

How To Specify

XFD - 09 - 12 - 100

Model
Xeri-Flex Dripline

Flow Rate
06 = .61 GPH (2,3 l/h)
09 = .92 GPH (3,5 l/h)

Emitter Spacing
12 = 12" (30,5 cm)
18 = 18" (45,7 cm)
24 = 24" (61,0 cm)

Length of Tubing
100 = 100' (30,5 m)
250 = 250' (76,2 m)
500 = 500' (152,4 m)

Xeri-Flex Dripline

NEW

The most flexible, pressure-compensating inline emitter tubing available to irrigate ground cover, dense plantings, hedge rows and more.

- Extra flexible tubing for fast, easy installation.
- Dual-layered tubing (brown over black or purple over black) provides unmatched resistance to chemicals, UV damage and algae growth.
- Patent pending emitter design provides for increased reliability.

Features

- Unique material offers significantly greater flexibility, allowing tighter turns with fewer elbows for easier installation.
- Choice of flow rates, spacing and coil lengths provides design flexibility for a variety of non-turfgrass applications.
- Accepts Rain Bird Easy Fit Compression Fittings, Xeri-Flex Dripline Insert Fittings, 17mm insert fittings, and LOC fittings.
- Use an Air/Vaccum Relief Valve Kit when installation is below soil.

Operating Range

- Pressure: 8.5 to 60 psi (0,7 to 4,1 bars)
- Flow Rates: 0.6 gph and 0.9 GPH (2,3 l/h and 3,5 l/h)
- Temperature: Up to 100° F (43.3 C) water
  Up to 125 F (51.7° C) ambient
- Required Filtration: 120 mesh

Specifications

- Outside diameter: 0.634" (16,1 mm)
- Inside diameter: 0.536" (13,6 mm)
- Wall thickness: .049" (1,2 mm)
- 12", 18" or 24" spacing
- Available in 100', 250', and 500' coils
- Use with Xeri-Flex Dripline Insert Fittings (see page 213.)

Xeri-Flex Dripline Models			
Model	**Flow GPH**	**Spacing in.**	**Coil Length ft.**
XFD-06-12-100	0.60	12	100
XFD-06-12-250	0.60	12	250
XFD-06-12-500	0.60	12	500
XFD-06-18-100	0.60	18	100
XFD-06-18-250	0.60	18	250
XFD-06-18-500	0.60	18	500
XFD-06-24-100	0.60	24	100
XFD-06-24-250	0.60	24	250
XFD-06-24-500	0.60	24	500
XFD-09-12-100	0.90	12	100
XFD-09-12-250	0.90	12	250
XFD-09-12-500	0.90	12	500
XFD-09-18-100	0.90	18	100
XFD-09-18-250	0.90	18	250
XFD-09-18-500	0.90	18	500
XFD-09-24-100	0.90	24	100
XFD-09-24-250	0.90	24	250
XFD-09-24-500	0.90	24	500

Xeri-Flex Dripline Models METRIC			
Model	**Flow l/h**	**Spacing cm**	**Coil Length m**
XFD-06-12-100	2,30	30,5	30,5
XFD-06-12-250	2,30	30,5	76,5
XFD-06-12-500	2,30	30,5	152,9
XFD-06-18-100	2,30	45,7	30,5
XFD-06-18-250	2,30	45,7	76,5
XFD-06-18-500	2,30	45,7	152,9
XFD-06-24-100	2,30	61,0	30,5
XFD-06-24-250	2,30	61,0	76,5
XFD-06-24-500	2,30	61,0	152,9
XFD-09-12-100	3,50	30,5	30,5
XFD-09-12-250	3,50	30,5	76,5
XFD-09-12-500	3,50	30,5	152,9
XFD-09-18-100	3,50	45,7	30,5
XFD-09-18-250	3,50	45,7	76,5
XFD-09-18-500	3,50	45,7	152,9
XFD-09-24-100	3,50	61,0	30,5
XFD-09-24-250	3,50	61,0	76,5
XFD-09-24-500	3,50	61,0	152,9

Xeri-Flex Dripline Maximum Lateral Lengths (Feet)						
Inlet Pressure psi	**Maximum Lateral Length (feet)**					
	12" Spacing		**18" Spacing**		**24" Spacing**	
	Nominal Flow (GPH):		**Nominal Flow (GPH):**		**Nominal Flow (GPH):**	
	.6	**.9**	**.6**	**.9**	**.6**	**.9**
20	194	94	347	187	464	249
30	282	182	434	274	552	337
40	344	244	497	337	614	399
50	392	292	545	385	662	447
60	432	332	584	424	702	487

Xeri-Flex Dripline Maximum Lateral Lengths (Meters) METRIC						
Inlet Pressure bars	**Maximum Lateral Length (Meters)**					
	30,5 cm		**45,7 cm**		**61,0 cm**	
	Nominal Flow (l/h):		**Nominal Flow (l/h):**		**Nominal Flow (l/h):**	
	2,3	**3,5**	**2,3**	**3,5**	**2,3**	**3,5**
1,4	59	29	106	57	142	76
2,1	86	55	132	84	168	103
2,8	105	74	151	103	187	122
3,4	120	89	166	117	202	136
4,1	132	101	178	129	214	148

● Landscape Dripline

● Purple Landscape Dripline

● ADI Emitter

Landscape Dripline

Easy to install, pressure-compensating inline emitter tubing used to irrigate ground cover, mixed plantings, hedge rows and more.

- Superior clog resistance ensures plant health and reduces maintenance.
- Longer runs can be irrigated with higher uniformity through consistent flow rates over the entire lateral length.
- Dual-layered tubing (brown over black or purple over black) provides unmatched resistance to chemicals, UV damage and algae growth.

Features

- Choice of flow rates, spacing and coil lengths provides design flexibility for a variety of non-turfgrass applications.
- Rain Bird's patented ADI emitter (Advanced Drip Inline) pressure compensates by "lengthening" the emitter's turbulent flow path instead of reducing the cross-sectional area of the emitter's flow path. The result is unsurpassed clog-resistance over the long term.
- Cylindrical design of Rain Bird's ADI emitter provides surface area for filtration throughout 360° of its inner circumference.
- Dual outlet ports on every Rain Bird inline emitter act in combination as a micro air vacuum relief valve.
- Use an Air Relief Valve Kit when installation is below soil (see p. 212)
- Accepts Rain Bird Easy Fit Compression Fittings, 16mm barb insert fittings and LOC Fittings.
- Custom Spacing Available; contact a Rain Bird sales representative for more details.

Operating Range

- Pressure: 8.5-60 psi (0,7 to 4,1 bars)
- Temperature: Up to 100° F (43.3° C) water
  Up to 125° F (51.7° C) ambient
- Flow Rates: 0.61 GPH and 0.92 GPH (2,3 l/h and 3,5 l/h)
- Required Filtration: 120-mesh (125-micron)

Specifications

- Outside Diameter: 0.630" (16 mm)
- Inside Diameter: 0.540" (13,7 mm)
- Wall Thickness: 0.045" (1,1 mm)

How To Specify

LD - P - 09 - 12 - 100

Model
Land-scape Dripline

Optional
Purple

Flow Rate
06 = .61 GPH (2,3 l/h)
09 = .92 GPH (3,5 l/h)

Emitter Spacing
12 = 12" (30,5 cm)
18 = 18" (45,7 cm)
24 = 24" (61,0 cm)

Length of Tubing
100 = 100' (30,5 m)
250 = 250' (76,2 m)
500 = 500' (152,4 m)

Flow Rate (GPM) per 100 feet of tubing			
	12"	**18"**	**24"**
.6	1.0	.67	.50
.9	1.5	1.0	.75

Landscape Dripline

Model	Flow GPH	Spacing in.	Coil Length ft.
LD-06-12-100	0.61	12	100
LD-06-12-250	0.61	12	250
LD-06-12-500	0.61	12	500
LD-06-18-100	0.61	18	100
LD-06-18-250	0.61	18	250
LD-06-18-500	0.61	18	500
LD-06-24-100	0.61	24	100
LD-06-24-250	0.61	24	250
LD-06-24-500	0.61	24	500
LD-09-12-100	0.92	12	100
LD-09-12-250	0.92	12	250
LD-09-12-500	0.92	12	500
LD-09-18-100	0.92	18	100
LD-09-18-250	0.92	18	250
LD-09-18-500	0.92	18	500
LD-09-24-100	0.92	24	100
LD-09-24-250	0.92	24	250
LD-09-24-500	0.92	24	500
LDP0612-500	0.61	12	500
LDP0618-500	0.61	18	500
LDP0912-500	0.92	12	500
LDP0918-500	0.92	18	500

Landscape Dripline METRIC

Model	Flow l/h	Spacing cm	Coil Length m
LD-06-12-100	2,30	30,5	30,5
LD-06-12-250	2,30	30,5	76,5
LD-06-12-500	2,30	30,5	152,9
LD-06-18-100	2,30	45,7	30,5
LD-06-18-250	2,30	45,7	76,5
LD-06-18-500	2,30	45,7	152,9
LD-06-24-100	2,30	61,0	30,5
LD-06-24-250	2,30	61,0	76,5
LD-06-24-500	2,30	61,0	152,9
LD-09-12-100	3,50	30,5	30,5
LD-09-12-250	3,50	30,5	76,5
LD-09-12-500	3,50	30,5	152,9
LD-09-18-100	3,50	45,7	30,5
LD-09-18-250	3,50	45,7	76,5
LD-09-18-500	3,50	45,7	152,9
LD-09-24-100	3,50	61,0	30,5
LD-09-24-250	3,50	61,0	76,5
LD-09-24-500	3,50	61,0	152,9
LDP0612-500	2,30	30,5	152,9
LDP0618-500	2,30	45,7	152,9
LDP0912-500	3,50	30,5	152,9
LDP0918-500	3,50	45,7	152,9

Landscape Dripline Maximum Lateral Lengths

Inlet Pressure psi	Maximum Lateral Length (feet) 12" Spacing Nominal Flow (GPH): .6	.9	18" Spacing Nominal Flow (GPH): .6	.9	24" Spacing Nominal Flow (GPH): .6	.9
15	159	130	222	174	283	214
25	252	171	359	231	457	287
35	304	211	435	289	558	358
45	342	236	489	322	627	399
60	392	268	558	365	716	453

Landscape Dripline Maximum Lateral Lengths METRIC

Inlet Pressure bars	Maximum Lateral Length (Meters) 30,5 cm Nominal Flow (l/h): 2,3	3,5	45,7 cm Nominal Flow (l/h): 2,3	3,5	61,0 cm Nominal Flow (l/h): 2,3	3,5
1,0	48,5	39,6	67,7	53,0	86,3	65,2
1,7	76,8	52,1	109,4	70,4	139,3	87,5
2,4	92,7	64,3	132,6	88,1	170,1	109,1
3,1	109,2	71,9	149,0	98,1	191,1	121,6
4,1	119,5	81,7	178,1	111,0	218,2	138,1

16mm Distribution Tubing

Features

- Co-extruded from UV-resistant polyethylene resin materials.
- Attractive brown outer color to match the landscape, Rain Bird's Xeri-Flex and Landscape Dripline inline emitter tubing.
- Compatible with Landscape Dripline (I.D.: 0.54"; O.D.: 0.63")
- Accepts Rain Bird Easy Fit Compression Fittings, 16mm barb insert fittings and LOC fittings.

Models

- LD-1600-100: 100 ft. coil (30m)
- LD-1600-500: 500 ft. coil (152m)

● LD 16mm 00-100

Tubing Friction Loss Characteristics

O.D. .630" I.D. .540"			*O.D. 16mm I.D. 13,7mm METRIC*		
Flow GPM	**Velocity fps**	**Loss psi**	**Flow l/h**	**Velocity m/s**	**Loss bars**
0.50	0.70	0.27	113,56	0,21	0,06
1.00	1.40	0.97	227,12	0,43	0,22
1.50	2.10	2.06	340,69	0,64	0,46
2.00	2.80	3.50	454,25	0,85	0,79
2.50	3.50	5.29	567,81	1,07	1,20
3.00	4.20	7.42	681,37	1,28	1,68
3.50	4.90	9.87	794,94	1,49	2,23
4.00	5.60	2.64	908,50	1,71	2,86
4.50	6.30	15.72	1022,06	1,92	3,56
5.00	7.00	19.11	1135,62	2,13	4,32
5.50	7.70	22.80	1249,19	2,35	5,16
6.00	8.40	26.78	1362,75	2,56	6,06

psi Loss Per 100 Feet of Pipe (psi/100ft.) Bars Loss per 100 Meters of Pipe (bars/100m)

Note: *Use of tubing at flows shown in dark shaded area is not recommended, as velocities exceed 5 ft./sec. (1,5 m/s).*

Air/Vacuum Relief Valve Kit

Features

- Complete kit is easily installed and includes ¾" air relief valve, Easy Fit Compression Tee, and Flush Cap.
- Use with Rain Bird Xeri-Flex or Landscape Dripline inline emitter tubing when installation is below soil.*
- Made of quality rust-proof materials
- Fits inside an SEB-6 emitter box

**Rain Bird does not recommend sub-surface installation for turf-grass.*

Model

- AR Valve Kit

● AR Valve Kit

Landscape Dripline Insert Fittings

Features

- Attractive brown color to match landscape and Landscape Dripline inline emitter tubing.
- Made of sturdy, break-resistant plastic.
- High quality barbs grab tubing for a secure fit.
- Compatible with Landscape Dripline (I.D.: 0.54"; O.D.: 0.63") and 16mm Distribution Tubing.

Models

- LD16CPLG: Barb x Barb Coupling
- LD16ELB: Barb x Barb Elbow
- LD16TEE: Barb x Barb Tee
- LD16STK: 7¾" Barbed Tubing Plastic Stake

● LD16ELB

● LD16TEE

● LD16STK

Xeri-Flex Dripline Insert Fittings

Features

- Complete line of 17 mm insert fittings to simplify installation of Xeri-Flex Dripline.
- Black color to differentiate from 16 mm fittings.
- Made of sturdy, break-resistant plastic.
- High quality barbs grab tubing for a secure fit.
- Compatible with Xeri-Flex Dripline and most polyethylene tubing with 17 mm O.D.

● XFD-ELBOW

● XFD-MA-050

● XFD-COUP

Operating Range

- Pressure: 0 to 50 psi (1,0 to 3,5 bar)

Models

- XFD-COUP: XFD Barb Coupling 17 x 17mm
- XFD-LDL-COUP: Barb Coupling 17 x 16mm
- XFD-ELBOW: Barb Elbow 17 x 17mm
- XFD-TEE: Barb Tee 17 x 17 x 17mm
- XFD-MA-050: Barb Male Adapter 17mm x ½" MPT
- XFD-MA-075: Barb Male Adapter 17mm x ¾"MPT
- XFD-TMA-050: Tee Male Adapter 17mm x ½" MPT x 17mm
- XFD-FA-075: Barb Female Adapter 17mm x ¾" FPT
- XFD-TFA-075: Barb Tee Female Adapter 17mm x ¾" FPT x 17mm
- XFD-CROSS: Barb Cross 17 x 17 x 17 x 17mm

XT-700 Distribution Tubing

Durable, thick-walled distribution tubing stands up to harsh conditions and performs well in all climates.

Features

- Thick-walled, flexible tubing resists kinks and damage caused by routine landscape maintenance activities.
- Extruded from UV-resistant polyethylene resin materials.
- Compatible with Easy Fit Compression Fittings.

Operating Range

- Pressure: 0 to 50 psi (0 to 3,5 bars)

Specifications

- Outside diameter: 0.700" (18 mm)
- Inside diameter: 0.580" (15 mm)

Models

- XT-700-100: 100-foot coil (30 m)
- XT-700-500: 500-foot coil (152 m)

Note: For both water conservation and appearance, it is recommended that a 2" to 3" (5 to 8 cm) mulch cover be placed on top of the tubing.

● XT-700-100

XT-700 Tubing Friction Loss Characteristics

O.D. .700" I.D. .580"			*O.D. 18 mm I.D. 15 mm METRIC*			
Flow GPM	**Velocity fps**	**Loss psi**	**Flow m³/h**	**Flow l/h**	**Velocity m/s**	**Loss bars**
0.50	0.61	0.19	0,11	0,03	0,19	0,01
1.00	1.21	0.69	0,23	0,06	0,37	0,05
1.50	1.82	1.45	0,34	0,09	0,56	0,10
2.00	2.43	2.47	0,45	0,13	0,74	0,17
2.50	3.03	3.74	0,57	0,16	0,92	0,26
3.00	3.64	5.24	0,68	0,19	1,11	0,36
3.50	4.24	6.97	0,79	0,22	1,29	0,48
4.00	4.85	8.93	0,91	0,25	1,48	0,62
4.50	5.46	11.10	1,02	0,28	1,67	0,77
5.00	6.06	13.50	1,14	0,32	1,85	0,93
5.50	6.67	16.10	1,25	0,35	2,03	1,11
6.00	7.28	18.92	1,36	0,38	2,22	1,31

psi Loss per 100 Feet of Pipe (psi/100ft.) *bar Loss per 100 Meters of Pipe (bar/100m)*

Note: *Use of tubing at flows shown in dark shaded area is not recommended, as velocities exceed 5 ft./sec. (1,5 m/s).*

¼" Landscape Dripline

Rain Bird's ¼" Dripline is a perfect choice for small-sized areas such as planter boxes, container gardens, loops around trees, vegetable gardens and shrubs.

Features

- Simple to use, as the flexible tubing makes watering pots and container gardens easy.
- ¼" tubing size complements the aesthetics of any garden
- Clog resistance through built-in filtration and two outlet holes, 180 degrees apart.
- Brown tubing complements Rain Bird's Xeri-Flex Dripline and Landscape Dripline.
- Works with Rain Bird ¼" barbed fittings.
- Comes in 2 spacings (6" and 12") and 2 coil lengths (50' and 100') for design flexibility.
- Unobtrusive size and flexibility provide a low-profile, aesthetically pleasing means to irrigate plants.

Operating Range

- 10 to 40 psi (0,7 to 2,7 bars)
- Flow Rate (at 30 psi/2,0 bars): 0.8 GPH (3,0 l/h)
- Required Filtration: 200 mesh (75 micron)

Specifications

- Outside diameter: 0.250" (6 mm);
- Inside diameter: 0.170" (4 mm)
- Wall thickness: .080" (2 mm)
- 6" or 12" spacing
- Available in 50' and 100' coils

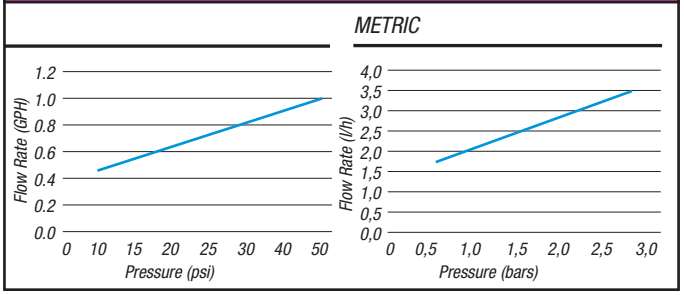
Models

- LDQ0806050
- LDQ0806100
- LDQ0812050
- LDQ0812100

Flow Characteristics

Model	Flow at 30 psi (GPH)	(l/h)	Spacing (in.)	(cm)	Coil Length (ft.)	(m)
LDQ0806050	0.8	3,0	6	15,25	50	15,25
LDQ0806100	0.8	3,0	6	15,25	100	30,50
LDQ0812050	0.8	3,0	12	30,5	50	15,25
LDQ0812100	0.8	3,0	12	30,5	100	30,5

¼" Dripline Performance



Maximum Length of Run (Feet)

Emitter Spacing	Maximum Length of Run	Flow per Ft. @ 15 psi
6"	19 feet	1 GPH/ft.
12"	33 feet	0.5 GPH/ft.

● LDQ-08-06-050

Black Stripe Tubing

High quality, flexible tubing for use in any low-volume irrigation system

- ½" blank tubing extruded from polyethylene resin materials for consistent durability.
- Available in 3 color stripes (green, yellow and purple) to differentiate zones.
- UV-resistant for installations at or below grade.

Features

- Compatible with Easy Fit Compression Fittings or standard 700 series compression fittings.
- Manufactured under strict ASTM test methods to ensure highest quality.
- Compact coils for easy storage and shipping.

Specifications

- Outside diameter: 0.705" (18 mm)
- Inside diameter: 0.615" (15,6 mm)
- Available in 100', 250', and 500' coils

Operating Range

- 0 to 60 psi (0 to 4,1 bars)

Models

- XBS 100: 100 foot (30 m) coil with green striping
- XBS 250: 250 foot (76 m) coil with green striping
- XBS 500: 500 foot (152 m) coil with green striping
- XBS 100P: 100 foot (30 m) coil with purple striping
- XBS 500P: 500 foot (152 m) coil with purple striping
- XBS 100Y: 100 foot (30 m) coil with yellow striping
- XBS 500Y: 500 foot (152 m) coil with yellow striping

XBS - Tubing Friction Loss Characteristics

O.D. .705" I.D. .615"			*O.D. 18 mm I.D. 15,5 mm METRIC*			
Flow GPM	**Velocity fps**	**Loss psi**	**Flow m³/h**	**Flow l/h**	**Velocity m/s**	**Loss bars**
0.50	0.54	0.14	0.11	113.6	0.16	0.03
1.00	1.08	0.52	0.23	227.1	0.33	0.12
1.50	1.62	1.09	0.34	340.7	0.49	0.25
2.00	2.16	1.86	0.45	454.3	0.66	0.42
2.50	2.70	2.81	0.57	567.8	0.82	0.64
3.00	3.24	3.94	0.68	681.4	0.99	0.89
3.50	3.78	5.24	0.79	794.9	1.15	1.19
4.00	4.31	6.71	0.91	908.5	1.32	1.52
4.50	4.85	8.35	1.02	1022.1	1.48	1.89
5.00	5.39	10.15	1.14	1135.6	1.64	2.30
5.50	5.93	12.11	1.25	1249.2	1.81	2.74
6.00	6.47	14.22	1.36	1362.8	1.97	3.22

psi Loss Per 100 Feet of Pipe (psi/100ft.) *bars Loss per 100 Meters of Pipe (bars/100m)*

Note: *Use of tubing at flows shown in dark shaded area is not recommended, as velocities exceed 5 ft./sec. (1,5 m/s).*

● **Black Stripe Tubing**

Easy Fit Compression Fitting System

Complete system of compression fittings and adapters for all tubing connection needs in a low-volume system

- Reduces inventory costs: Multi-diameter compression fittings work with a wide range of ½" polyethylene tubing sizes (.630" to .710" or 16mm - 18mm outside diameter.)
- Saves time and effort: 50% less force is required to connect tubing and fittings versus competitive compression fittings. Adapters swivel for easy installation.
- Provides increased flexibility: Just three Easy Fit Fittings and five Easy Fit Adapters are needed to make over 160 combinations of connections, accommodating countless installation and maintenance situations.

Friction Loss per Fitting

Flow GPM	Loss psi	Flow l/h (METRIC)	Loss bars (METRIC)
0.00	0.00	0,00	0,00
1.00	0.39	227,1	0,03
2.00	0.64	454,3	0,04
3.00	0.82	681,4	0,06
4.00	1.45	908,5	0,10
5.00	1.90	1135,6	0,13
6.00	2.57	1362,8	0,18

Note: use of fittings at flows shown in dark shaded area is not recommended.

(Friction loss shown is with XBS Tubing.)

Features

- Works with all ½" polyethylene tubing from 16-18 mm OD, including Rain Bird Xeri-Flex Dripline, Landscape Dripline, 16mm Blank Tubing, XBS tubing and XT-700 tubing.
- Patented fittings and adapters are molded from UV-resistant and durable ABS materials.
- Removable flush caps can be used to flush end of line and temporarily cap off lines for later expansion.

Operating Range

- Pressure: 0 to 60 psi (0 to 4,1 bars)
- Accepts tubing O.D. of .630" to .710" (16 -18mm)

Models

EASY FIT FITTINGS

- MDCFCOUP: Coupling
- MDCFEL: Elbow
- MDCDTEE: Tee

EASY FIT ADAPTERS

- MDCF50MPT: ½" Male Pipe Thread Adapter
- MDCF75MPT: ¾" Male Pipe Thread Adapter
- MDCF50FPT: ½" Female Pipe Thread Adapter
- MDCF75FPT: ¾" Female Pipe Thread Adapter
- MDCF75FHT: ¾" Female Hose Thread Adapter
- MDCFCAP: Removable Flush Cap For Easy Fit Fittings (Black)
- MDCFPCAP: Removable Flush Cap For Easy Fit Fittings (Purple, to designate non-potable water)

Note: Easy Fit Adapters are not barbed fittings. They are to be used only with Easy Fit Compression Fittings.

Easy Fit Below Grade Irrigation Emission Stake

Combination stake, coupling and threaded adapter secures system below grade, allowing most of system to be kept out of sight.

Features

- Allows the use of flexible polyethylene tubing while providing the same protection as a below-grade PVC system — only a small part of the emission device is at or above grade.
- Incorporates Rain Bird's Easy Fit Compression Coupling, which accommodates a wide range of ½" polyethylene tubing with outside diameter of .630" - .710" (16mm - 18mm), including Rain Bird Xeri-Flex Dripline, Landscape Dripline, 16mm Blank Tubing, XBS tubing and XT-700 tubing.
- Easy Fit Fittings save time and effort, as 50% less force is required to connect tubing and fittings versus competitive compression fittings.
- Adapter accepts virtually any ½" drip FPT emission device, including the 12" and 24" PolyFlex Riser assemblies (PFR-FRA and PFR-FRA24).
- Unique, patented design is manufactured using rugged ABS plastic material for long-lasting durability.

Operating Range

- Pressure: 0 to 60 psi (0 to 4,1 bars)

Models

- BIGIESTK

● BIGIESTK

¼" Distribution Tubing

Features

- Extends emitter outlets to desirable discharge locations.
- Fits over barbed outlet ports on all Xerigation emission devices and ¼" transfer fittings.
- Made from quality polyethylene or vinyl materials.

Specifications

- Outside diameter: 0.22" (6 mm)
- Inside diameter: 0.16" (4 mm)

Models

Vinyl Tubing

- DT-025-050: 50-foot (15,2 m) coil of ¼" vinyl distribution tubing
- DT-025-100: 100-foot (30 m) coil of ¼" vinyl distribution tubing
- DT-025-1000: 1000-foot (304m) coil of ¼" vinyl distribution tubing
- DT-025-1KPPK: Pallet Pack of 1000-foot (304m) coils of ¼" vinyl distribution tubing (32 coils per pallet)

Polyethylene Tubing

- PT-025-050: 50-foot (15,2 m) coil of ¼" polyethylene distribution tubing
- PT-025-100: 100-foot (30 m) coil of ¼" polyethylene distribution tubing
- PT-025-1000: 1000-foot (304 m) coil of ¼" polyethylene distribution tubing

Note: Polyethylene tubing recommended for high temperature and high pressure applications.

¼" Distribution Tubing Friction Loss Characteristics

O.D. .220" I.D. .160"			*O.D. 6 mm I.D. 4 mm*			*METRIC*
Flow GPH	**Velocity fps**	**Loss psi**	**Flow m³/h**	**Flow l/h**	**Velocity m/s**	**Loss bars**
1	0.27	0.16	0,00	3,79	0,08	0,01
2	0.53	0.59	0,01	7,58	0,16	0,04
3	0.80	1.24	0,01	11,6	0,24	0,09
4	1.06	2.12	0,02	15,14	0,32	0,15
5	1.33	3.20	0,02	18,92	0,41	0,22
6	1.59	4.49	0,02	22,71	0,48	0,31
7	1.86	5.97	0,03	26,50	0,57	0,41
8	2.13	7.64	0,03	30,28	0,65	0,53
9	2.39	9.50	0,03	34,07	0,73	0,66
10	2.66	11.54	0,04	37,85	0,81	0,80
11	2.92	13.79	0,04	41,64	0,89	0,95
12	3.19	16.17	0,05	45,42	0,97	1,12
13	3.45	18.75	0,05	49,21	1,05	1,29
14	3.72	21.50	0,05	52,99	1,13	1,48
15	3.98	24.43	0,06	56,78	1,21	1,69
16	4.25	27.53	0,06	60,56	1,30	1,90
17	4.52	30.80	0,06	64,35	1,38	2,13
18	4.78	34.23	0,07	68,13	1,46	2,36
19	5.05	37.83	0,07	71,92	1,54	2,61
20	5.31	41.60	0,08	75,70	1,62	2,87
25	6.64	62.86	0,09	94,63	2,03	4,34
30	7.97	88.08	0,11	113,55	2,43	6,08

psi Loss Per 100 Feet of tubing; C=150 *bars Loss per 100 Meters of tubing*

Note: *Use of tubing at flows shown in dark shaded area is not recommended, as velocities exceed 5 ft./sec. (1,5 m/s).*

● DT-025 / PT-025

¼" Barb Transfer Fittings

Features

- Used to connect ¼" distribution tubing (DT-025 or PT-025) in different configurations or attach ¼" tubing to ½" or ¾" tubing.
- Newly designed connectors have self-piercing barbs that easily puncture ½" or ¾" tubing.
- Stem on fittings allows simple, quick installation using Xeriman™ Tool (XM-TOOL).
- Rugged plastic construction.

Operating Range

- Pressure: 0 to 50 psi (0 to 3,5 bars)

Models

- XBF1CONN: ¼" Barb Connector
- XBF2EL: ¼" Barb x Barb Ell
- XBF3TEE: ¼" Barb x Barb x Barb Tee

● XBF1CONN ● XBF2EL ● XBF3TEE

¼" Self-Piercing Barb Connector

Features

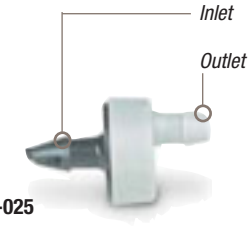
- Used to connect ¼" distribution tubing into ½" or ¾" distribution tubing.
- Self-piercing barb inlet is easily inserted into ½" or ¾" distribution tubing using a Xeriman™ Tool (XM-Tool).
- Outlet barb accepts ¼" distribution tubing (DT-025 or PT-025). Gray outlet barb indicates unit has unrestricted flow.

Operating Range

- Pressure: 0 to 50 psi (0 to 3,5 bars)

Model

- SPB-025



● SPB-025

Other Fittings and End Closures

Features

- 700 Series Compression adapter (700-CF-1) fits Rain Bird XBS tubing, as well as other ½" polyethylene tubing with .700" O.D.
- 600 Series Compression adapter (600-CF-1) fits Rain Bird Xeri-Flex Dripline and Landscape Dripline, as well as other ½" polyethylene tubing with .620"-.630" O.D.
- All LOC fittings fit Rain Bird Xeri-Flex Dripline and Landscape Dripline.
- Figure 8 End Closures (700 CF-22) are used at ends of drip tubing laterals and fit Rain Bird's XBS tubing, XT-700 tubing, 16 mm tubing, Xeri-Flex Dripline and Landscape Dripline. Easily removed for flushing.

Operating Range

- Pressure: 0 to 50 psi (0 to 3,5 bars)

Models

- 700-CF-1: ½" Compression Adapter
- 600-CF-1: 16mm Compression Adapter
- LOC 16mm 050 MPT: ½" Male Pipe Thread Adapter
- LOC 16mm 075 MPT: ¾" Male Pipe Thread Adapter
- LOC 16mm Tee
- LOC 16mm Elbow
- LOC 16mm Coupling
- 700-CF-22: Figure 8 End Closure

Note: When gluing the 700-CF-1 or 600-CF-1 adapter into ½" PVC, use an ABS to PVC bonding solvent.

● 700-CF-1, 600-CF-1 ● 700-CF-22

● LOC Fittings

Tubing Goof Plug

Features

- Used to plug unwanted holes in tubing.
- New design works with Xeriman™ Tool (XM-TOOL) for a quick, easy installation.

Model

- EMA-GPX

● EMA-GPX

¼" Mounting Clip

Features

- Used to attach ¼" distribution tubing (DT-025 or PT-025) to wood without pinching the tube.
- Nail is retained in the clip for easy installation.
- Durable plastic construction.

Model

- MC-025

● MC-025

Xeri Micro Valves

Features

- Micro-sized multi-purpose flow control valves.
- Easily adjust or turn off flow by rotating the ball valve.

Operating Range

- Pressure: 0 to 50 psi (0 to 3,5 bars)

Models

- XMV-1032: 10-32 x 10-32 threads (use with PolyFlex Risers)
- XMV-025: ¼" barb x ¼" barb (use with DT-025 or PT-025 flexible distribution tubing)

● XMV-025 XMV-1032

Subterranean Emitter Box

Features

- Provides convenient access to subsurface emitter while protecting against vandalism. Ideal for multi-outlet devices (such as Xeri-Bird 8) and Air Vacuum Relief Valve Kit.
- Slotted body facilitates installation of distribution tubing.
- Rugged, UV-resistant thermoplastic construction.

Dimensions

- Height: 10¼" (26 cm)
- Top Diameter: 5" (12,7 cm)
- Base Diameter: 7¾" (19,7 cm)

Model

- SEB-6X

● SEB-6X

Galvanized Tie-Down Stake

Features

- 12-gauge galvanized steel rod comes pre-bent to staple distribution tubing, Xeri-Flex Dripline or Landscape Dripline to finished grade.
- Notched sides help secure stake in ground.
- Sturdy, long-lasting and corrosion-resistant.

Model

- TDS-050 w/bend

● TDS-050 w/bend

Xeriman™ Tool

Features

- Provides fast, easy, one-step installation of Xeri-Bug™ emitters and PC Modules directly into ½" or ¾" drip tubing, Xeri-Flex Dripline or Landscape Dripline.
- Cuts emitter installation time by 50%.
- All-in-one tool inserts emitters, removes emitters, inserts ¼" barbed fittings and installs goof plugs.

Model

- XM-TOOL

One Step Xeri-Bug™ Insertion

Xeri-Bug™ Removal

Goof Plug Insertion

● XM-TOOL

Tubing Cutter - Improved Design!

NEW

Features

- Re-designed Xerigation Tubing Cutter allows for easier and cleaner cuts of all low-volume tubing.
- Unique design provides two different-sized wells (one for ½" - ¾" tubing and one for ¼" tubing:, giving more leverage so less force is needed to cut any tubing!
- Tubing Cutter is lightweight with stainless steel blades. Replacement blades available (PPC-200XBLD).

Model

- PPC-200X: Tubing Cutter
- PPC-200XBLD: Replacement blade

● Improved dual-well design allows for clean cuts.

● PPC-200X

Contractor's Application Guide

Features

- The Contractor's Application Guide presents practical solutions to a number of common drip irrigation applications.
- This guide shows the most efficient design approaches, plan drawings, a detailed list of materials needed, estimates of installation time and tasks, and useful tips to speed up installation and maintenance of drip irrigation systems.
- Now available in English and Spanish.

Models

- D39634 (Contractor Application Guide – English)
- D39690 (Contractor Application Guide – Spanish)

● Contractor Application Guide – English

Ball Valve

Features

- Positive drip-tight shutoff.
- Rapid ¼-turn on/off control.
- Durable PVC body with ¾" male threads and rugged ABS handle.

Operating Range

- Flow: 0 to 22.0 GPM (0 to 5,0 m³/h; 0 to 83 l/m)
- Pressure: 15 to 150 psi (1,0 to 10,3 bars)

Model

- XBV-075

● XBV-075

Retrofit Kit

Simple kit that easily converts a conventional spray zone to a low-volume irrigation zone.

Features

- 1800 body that contains a filter, pressure regulator, and ½" male threaded outlet.
- Permits convenient conversion to drip tubing when used with Easy Fit Fitting and female adapter.
- Internal assembly can be removed and easily dropped into any 1804, 1806 or 1812 spray head body to easily retrofit existing system to Xerigation products.
- Provides 30 psi (2,1 bars) pressure regulation and 200-mesh (75-micron) screen.
- Can be installed above or below grade.
- If retrofit flow is less than 3 GPM, replace electronic valve with Rain Bird's Low Flow Valve.

Operating Range

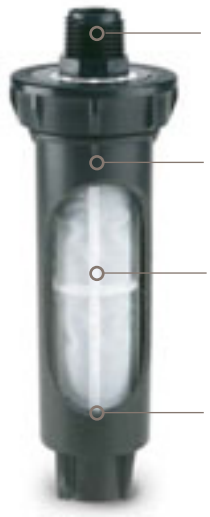
- Flow: 0.50 to 4.00 GPM (1,9 to 15,1 l/m)
- Inlet Pressure: 15 to 70 psi (1,0 to 4,8 bars)
- Regulated Pressure: 30 psi (2,1 bars)
- Filtration: 200 mesh (75 micron)

Dimensions

- ½" female-threaded inlet
- ½" male-threaded swivel outlet
- Height: 7" (17,8 cm)
- Width: 2" (5,1 cm)

Model

- RETRO-1800



● **RETRO-1800**

Xeri-Caps™ for Spray Heads

Features

- Helps to retrofit a spray head system to a drip system by capping off any unused spray heads.

Operating Range

- Pressure: 0 to 70 psi (0,0 to 4,8 bars)

Dimension

- Width: 2¼" (5,7 cm)

Models

- XC-1800: fits Rain Bird 1800 Series sprays

● **Ideal for converting drip appropriate areas.**

● **Rain Bird® XC-1800**

Control Zone Kits

Rain Bird Control Zone Kits provide all of the components necessary for on/off control, filtration, and pressure regulation in a single package, making them simple to order and easy to install.

- Rain Bird's Control Zone Kits are the most reliable kits and contain revolutionary products such as the Low Flow Valve, Pressure Regulating (PR) Filter, and the Quick Check Basket Filter.
- All kits in the Residential/Light Commercial categories use the innovative PR Filter which combines the filter and pressure regulator into one unit. The PR Filter eliminates a separate component to help avoid leaks either during installation or over the life of the kit in the field. Most PR Filter kits come assembled to save installation time and avoid in-field mistakes.
- Rain Bird offers the most complete line of Control Zone Kits, giving contractors and specifiers the flexibility to meet every need from 0.2 to 40 GPM. Choose from:
  - ¾", 1" or 1½" inlet opening.
  - Low Flow Valve, Anti-Siphon Valve, DV Valve, or PESB Valve.
  - Pressure Regulating RBY Filter, Pressure Regulating Self-cleaning Back Flush Filter, or Quick Check Basket Filter.

Use the chart below to identify the most appropriate kit or see pages 224 - 229 for specific detailed information on these kits and their individual components. Also available is the Control Zone Kit Pyramid Selection Guide for selection and detailed specification information; found at www.rainbird.com/drip/products/control.

Control Zone Selection Chart

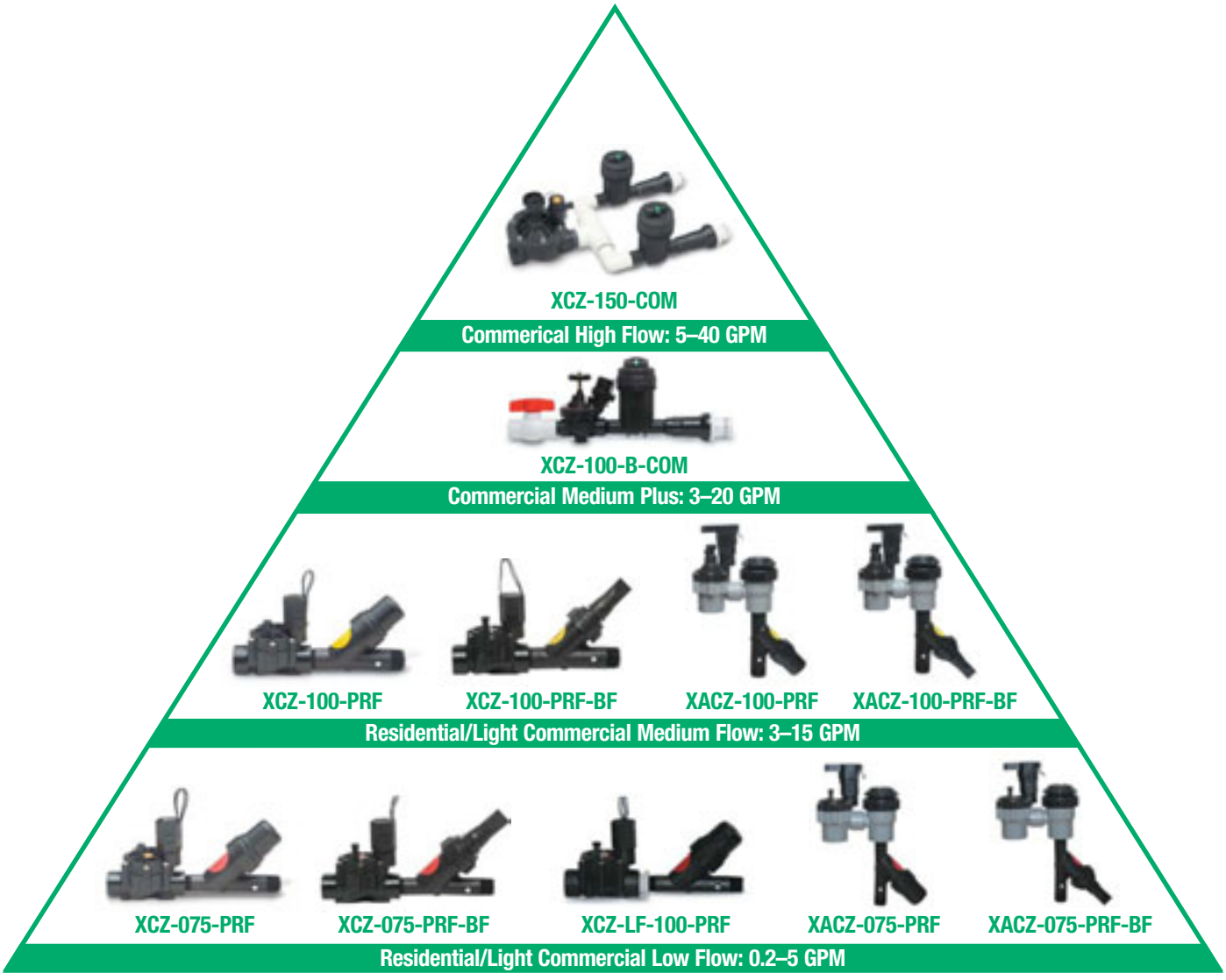
Model	Size (Inlet x Outlet)	Flow Range	Inlet Pressure Range	Valve	Filter	Outlet Pressure
COMMERCIAL HIGH FLOW: 15–40 GPM						
XCZ-150-COM	1½" x 2 @ 1"	15 – 40 GPM	20 – 150 psi	150-PESB	1" Quick Check Basket Filter (2)	40 psi
COMMERCIAL MEDIUM PLUS FLOW: 3–20 GPM						
XCZ-100-B-COM	1" x 1"	3 – 20 GPM	20 – 150 psi	100-PESB	1" Quick Check Basket Filter	40 psi
RESIDENTIAL/LIGHT COMMERCIAL MEDIUM FLOW: 3–15 GPM						
XCZ-100-PRF*	1" x 1"	3 – 15 GPM	20 – 120 psi	100-DV	1" Pressure-Regulating RBY Filter	40 psi
XCZ-100-PRF-BF*	1" x 1"	3 – 15 GPM	20 – 120 psi	100-DV	1" PR Back Flush Filter	40 psi
XACZ-100-PRF	1" x 1"	3 – 15 GPM	20 – 120 psi	100-ASVF	1" PR RBY Filter	40 psi
XACZ-100-PRF-BF	1" x 1"	3 – 15 GPM	20 – 120 psi	100-ASVF	1" PR RBY Back Flush Filter	40 psi
RESIDENTIAL/LIGHT COMMERCIAL LOW FLOW: 0.2–5 GPM						
XCZ-075-PRF	¾" x ¾"	0.2 – 5 GPM	20 – 120 psi	LFV-075	¾" Pressure-Regulating RBY Filter	30 psi
XCZ-075-PRF-BF	¾" x ¾"	0.2 – 5 GPM	20 – 120 psi	LFV-075	¾" PR Back Flush Filter	30 psi
XACZ-075-PRF	¾" x ¾"	0.2 – 5 GPM	20 – 120 psi	ASV-LF-075	¾" PR RBY Filter	30 psi
XACZ-075-PRF-BF	¾" x ¾"	0.2 – 5 GPM	20 – 120 psi	ASV-LF-075	¾" PR Back Flush Filter	30 psi
XCZ-LF-100-PRF	1" x ¾"	0.2 – 5 GPM	20 – 120 psi	LFV-100	¾" PR RBY Filter	30 psi

Comes Assembled!
Comes Assembled!
Comes Assembled!
Comes Assembled!

Available with BSP threads

Control Zone Kit Pyramid Selection Guide

This easy-to-use selection tool is available at www.rainbird.com/drip/products/control and will help identify the most appropriate Control Zone Kit for the application. The selection guide uses an interactive format and asks four questions about the application; each time narrowing down the choices to identify the best one. Once the best kit is identified, the detailed specification information is easily found via point and click.



Low Flow Control Zone Kits with PR Filter

- Reliable Control Zone Kits that include the Low Flow Valve, the only valve on the market that can handle low flows (below 3 GPM) without weeping.
- Shorter kits with only two components (valve plus pressure-regulating filter) mean that you can fit more Control Zone Kits in a valve box, saving time and money.
- These PR Filter kits provide on/off control, filtration, and pressure regulation with fewer components; so there is less chance of leakage at the connections, both at installation and over the life of the system.

Operating Range

- Flow: 0.20 to 5.0 GPM (0,8 to 18,9 l/m)
- Inlet Pressure: 20 to 120 psi (1,4 to 8,3 bars)
- Regulated pressure: 30 psi (2,1 bars)
- Filtration: 200 mesh (75 micron)

Models

- XCZ-075-PRF (¾" Low Flow Valve + ¾" PR RBY Filter [Assembled])
- XCZ-075-PRF-BF (¾" Low Flow Valve + ¾" PR Back Flush Filter [Assembled])
- XCZ-LF-100-PRF (1" Low Flow Valve + ¾" PR RBY Filter)

Minimum Inlet Pressure for 30 psi Outlet Pressure

	Inlet Pressure (psi)		
Flow (GPM)	XCZ-075-PRF	XCZ-075-PRF-BF	XCZ-LF-100-PRF
0.2	34.4	34.6	34.6
1.0	36.1	36.5	36.5
3.0	38.1	38.2	38.1
5.0	43.4	43.6	42.0

Minimum Inlet Pressure for 2,1 bars Outlet Pressure

	Inlet Pressure (bars)		
Flow (l/m)	XCZ-075-PRF	XCZ-075-PRF-BF	XCZ-LF-100-PRF
0,8	2,4	2,4	2,4
3,8	2,5	2,5	2,5
11,4	2,6	2,6	2,6
18,9	3,0	3,0	2,9

● XCZ-075-PRF

● 4 Control Zone Kits in a standard valve box

● XCZ-075-PRF-BF

An inline check valve is required if the Back Flush Filter is not at the highest point in the irrigation system (see page 235)

● XCZ-LF-100-PRF

Low Flow Control Zone Kits with Anti-Siphon Valve and PR Filter

- Reliable Control Zone Kits that include the Low Flow Valve, the only valve on the market that can handle low flows (below 3 GPM) without weeping.
- Complete, two-piece Control Zone Kits include the field-proven Low Flow Anti-Siphon Valve that has an atmospheric vacuum breaker for backflow prevention and an IAPMO rating.
- These PR Filter kits provide on/off control, filtration, and pressure regulation with only two parts; so there is less chance of leakage at the connections, both at installation and over the life of the system.

Operating Range

- Flow: 0.20 to 5.0 GPM (0,8 to 18,9 l/m)
- Inlet Pressure: 20 to 120 psi (1,4 to 8,3 bars)
- Filtration: 200 mesh (75 micron)
- Regulated Pressure: 30 psi (2,1 bars)

Models

- XACZ-075-PRF (¾" Low Flow Anti-Siphon Valve + ¾" PR RBY Filter)
- XACZ-075-PRF-BF (¾" Low Flow Anti-Siphon Valve + ¾" PR Back Flush Filter)

Minimum Inlet Pressure for 30 psi Outlet Pressure

	Inlet Pressure (psi)	
Flow (GPM)	XACZ-075-PRF	XACZ-075-PRF-BF
0.2	37.4	37.6
1.0	39.1	39.5
3.0	40.0	40.1
5.0	49.7	49.9

Minimum Inlet Pressure for 2,1 bars Outlet Pressure

	Inlet Pressure (bars)	
Flow (l/m)	XACZ-075-PRF	XACZ-075-PRF-BF
0,8	2,6	2,6
3,8	2,7	2,7
11,4	2,8	2,8
18,9	3,4	3,4

● XACZ-075-PRF

● XACZ-075-PRF-BF

Medium Flow Control Zone Kits with PR Filter

- Shorter kits with only two components (valve plus pressure-regulating filter) mean that you can fit more Control Zone Kits in a valve box, saving time and money.
- These PR Filter kits provide on/off control, filtration, and pressure regulation with only two parts; so there is less chance of leakage at the connections, both at installation and over the life of the system.
- Choose from the robust and economical RBY Filter, or the innovative self-cleaning Back Flush Filter for maximum flexibility and ease of maintenance.

Operating Range

- Flow: 3.0 to 15.0 GPM (11,4 to 56,8 l/m)
- Inlet Pressure: 20 to 120 psi (1,4 to 8,3 bars)
- Filtration: 200 mesh (75 micron)
- Regulated Pressure: 40 psi (2,8 bars)

Models

- XCZ-100-PRF (1" DV Valve + 1" PR Filter [Assembled])*
- XCZ-100-PRF-BF (1" DV Valve + 1" PR Back Flush Filter [Assembled])*

** Available with BSP threads*

Minimum Inlet Pressure for 40 psi Outlet Pressure

	Inlet Pressure (psi)	
Flow (GPM)	XCZ-100-PRF	XCZ-100-PRF-BF
3.0	42.9	43.2
5.0	44.1	44.5
8.0	46.9	47.5
10.0	48.5	49.5
15.0	55.5	57.4

Minimum Inlet Pressure for 2,8 bars Outlet Pressure

	Inlet Pressure (bars)	
Flow (l/m)	XCZ-100-PRF	XCZ-100-PRF-BF
11,4	3,0	3,0
18,9	3,0	3,1
30,3	3,2	3,3
37,9	3,3	3,4
56,8	3,8	4,0

● XCZ-100-PRF

● XCZ-100-PRF-BF

An inline check valve is required if the Back Flush Filter is not at the highest point in the irrigation system (see page 235)

Medium Flow Control Zone Kits with Anti-Siphon Valve and PR Filter

- Complete, two-piece Control Zone Kits include the field-proven ASVF valve which has an atmospheric vacuum breaker for backflow prevention and an IAPMO rating.
- These PR Filter kits provide on/off control, filtration, and pressure regulation with only two parts; so there is less chance of leakage at the connections, both at installation and over the life of the system.
- Choose from the robust and economical RBY Filter, or the innovative self-cleaning Back Flush Filter for maximum flexibility and ease of maintenance.

Operating Range

- Flow: 3.0 to 15.0 GPM (11,4 to 56,8 l/m)
- Inlet Pressure: 20 to 120 psi (1,4 to 8,3 bars)
- Filtration: 200 mesh (75 micron)
- Regulated Pressure: 40 psi (2,8 bars)

Models

- XACZ-100-PRF (1" ASVF + 1" PR RBY Filter)
- XACZ-100-PRF-BF (1" ASVF + 1" PR Back Flush Filter)

Minimum Inlet Pressure for 40 psi Outlet Pressure

	Inlet Pressure (psi)	
Flow (GPM)	XACZ-100-PRF	XACZ-100-PRF-BF
3.0	43.3	43.6
5.0	44.7	45.1
7.0	46.2	46.8
9.0	47.3	47.9
11.0	50.8	52.0
13.0	55.4	56.9
15.0	59.7	61.6

Minimum Inlet Pressure for 2,8 bars Outlet Pressure

	Inlet Pressure (bars)	
Flow (l/m)	XACZ-100-PRF	XACZ-100-PRF-BF
11,4	3,0	3,0
18,9	3,1	3,1
26,5	3,2	3,2
34,1	3,3	3,3
41,6	3,5	3,6
49,2	3,8	3,9
56,8	4,1	4,2

● XACZ-100-PRF

● XACZ-100-PRF-BF

Medium Flow Commercial Control Zone Kit with Basket Filter

- Complete kit is the simplest and most reliable Control Zone Kit for commercial applications between 3 and 20 GPM (11 and 76 l/m)
- Contains the reliable, proven PESB Valve which provides patented scrubbing action, making this kit ideal for commercial dirty water applications.
- Includes the Quick Check Basket Filter that has a clear indicator which goes from green to red, telling you when to clean the filter. This reduces maintenance and takes the guesswork out of cleaning the filter. In addition, the threaded top makes it easy to remove and clean the stainless steel screen.

Operating Range

- Flow: 3.0 to 20.0 GPM (11,4 to 75,7 l/m)
- Inlet Pressure: 20 – 150 psi (1,4 to 10,3 bars)
- Filtration: 200 mesh (75 micron)
- Regulated Pressure: 40 psi (2,8 bars)

Model

- XCZ-100-B-COM (1" PESB Valve + 1" Basket Filter + 40 psi Pressure Regulator + 1" Ball Valve)

Minimum Inlet Pressure for 40 psi Outlet Pressure

Flow (GPM)	Inlet Pressure (psi) XCZ-100-B-COM
3.0	43.0
5.0	44.0
7.0	45.0
9.0	45.5
11.0	46.2
14.0	48.1
17.0	50.7
20.0	54.0

Minimum Inlet Pressure for 2,8 bars Outlet Pressure

Flow (l/m)	Inlet Pressure (bars) XCZ-100-B-COM
11,4	3,0
18,9	3,0
26,5	3,1
34,1	3,1
41,6	3,2
53,0	3,3
64,4	3,5
75,7	3,7

● XCZ-100-B-COM

1½" Control Zone Kit

- Highest flow Control Zone Kit on the market for large, commercial drip zones.
- Contains the revolutionary Quick Check Basket Filter for reduced maintenance and increased reliability.
- Comes partially assembled for a simple, quick and flexible installation.

Operating Range

- Flow: 15.0 to 40.0 GPM (56,8 to 151,4 l/m)
- Inlet Pressure: 20 to 150 psi (1,4 to 10,3 bars)
- Regulated pressure: 40 psi (2,8 bars)
- Filtration: 200 mesh (75 micron)

Models

- XCZ-150-COM (1½" PESB Valve + 2 - 1" Basket Filters + 2 - 40 psi Pressure Regulators)

Minimum Inlet Pressure for 40 psi Outlet Pressure	
Flow (GPM)	Inlet Pressure (psi) XCZ-150-COM
15.0	44.5
20.0	44.9
25.0	46.3
30.0	48.1
35.0	50.3
40.0	52.6

Minimum Inlet Pressure for 2,8 bars Outlet Pressure	
Flow (l/m)	Inlet Pressure (bars) XCZ-150-COM
56,8	3,1
75,7	3,1
94,7	3,2
113,6	3,3
132,5	3,5
151,4	3,6

● XCZ-150-COM

Low Flow Valves

Valves designed exclusively for the low flow rates of a drip irrigation system (0.2 - 8.0 GPM).

- The only valves in the industry made specifically for drip irrigation systems, making these the only valves that can effectively handle particles at low flow rates.
- These valves contain all of the features of Rain Bird's reliable DV or ASVF valve, coupled with a unique diaphragm design that allows particles to pass through at extremely low flow rates, thereby preventing weeping of the valve.
- Allows the filter to be safely placed downstream of the valve since these valves handle all sizes of particles.

Features

- Patent-pending
- Unique "double-knife" diaphragm coupled with ½" diameter seat for flawless operation at low flow rates.
- Low Flow Valve is available in ¾" and 1" In-line models, plus ¾" Anti-Siphon Valve.
- Double-filtered pilot flow design for maximum reliability.
- External bleed to manually flush the system of dirt and debris during installation and system start-up.
- Internal bleed for spray-free manual operation.

Operating Ranges

- Flow: 0.20 to 8.0 GPM (0,6 to 30,0 l/m)
- Pressure: 15 to 150 psi (1,0 to 10,3 bars)

Electrical Specifications

- 24 VAC 50/60 Hz (cycles/sec) solenoid
- Inrush current: 0.30 (7.2 VA) at 60 Hz
- Holding current: 0.19 A (4.56 VA)

Models

- LFV-075: ¾" Low Flow DV Valve
- LFV-100*: 1" Low Flow DV Valve
- ASV-LF-075: ¾" Low Flow Anti-Siphon Valve

**Available with BSP threads*

Pressure Loss Characteristics

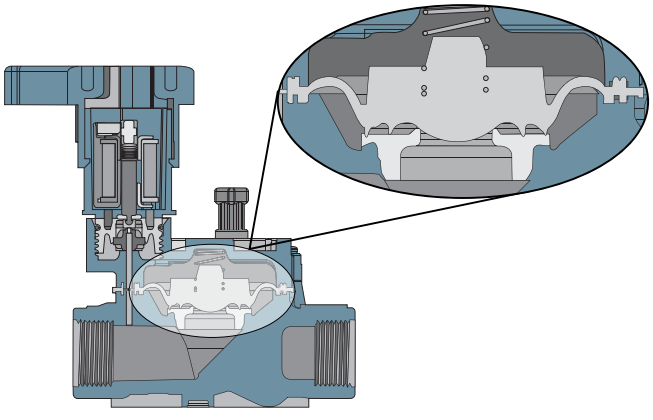
Flow GPM	LFV-075 psi	LFV-100 psi	ASV-LF-075 psi
0.2	3.0	3.0	2.5
1.0	3.2	3.2	3.1
2.0	3.3	3.3	3.7
4.0	3.6	3.6	4.6
6.0	4.2	4.2	5.3
8.0	5.1	5.1	5.7

Pressure Loss Characteristics METRIC

Flow l/m	LFV-075 bars	LFV-100 bars	ASV-LF-075 bars
0,6	0,21	0,21	0,17
3,6	0,22	0,22	0,22
7,8	0,23	0,23	0,27
15,0	0,25	0,25	0,31
22,8	0,28	0,28	0,35
30,0	0,35	0,35	0,39

● ASV-LF-075

● LFV-075



● Unique diaphragm design

Pressure-Regulating Filter (RBY or Back Flush Filter)

Unique, compact unit that combines filtration and pressure regulation in one piece for protection of downstream components in a low-volume irrigation system.

- The Pressure-Regulating (PR) Filter reduces the number of components in a control zone, making it smaller and easier to install. More control zones can fit in one valve box!
- Combination unit reduces the number of connections, making installation easier and faster.
- The PR Filter provides increased reliability--fewer parts and fewer threaded connections mean less chance of a leak both at installation and also over the life of the system.

Features

- Available in either the static RBY filter or the self-cleaning Back Flush Filter, each of these units regulates pressure to a nominal 30 or 40 psi (2,0 or 2,8 bar).
  - PR RBY Filter Cap has sealing O-ring and unthreads to provide access to the filter element for easy cleaning.
  - PR Back Flush Filter provides self-cleaning action with every cycle, as debris is flushed every time the system is turned on and off.
- 30 or 40 psi pressure regulator is integrated into the filter body.
- Robust body and cap are made of glass-filled polypropylene and provide 150 psi (10,3 bars) pressure rating.
- Works with all valves to create a simple, efficient control zone.
- Comes with 200 mesh (75 micron) screen pre-assembled.
- Replacement filter elements are available in 200 mesh (75 micron) and 150 mesh (100 micron).

Operating Range

- Flow
  - ¾" units: 0.20 to 5.0 GPM (0,8 to 18,9 l/m)
  - 1" units: 3.0 to 15.0 GPM (11,4 to 56,8 l/m)
- Inlet Pressure: 20 to 150 psi (1,4 to 10,3 bars)
- Regulated pressure:
  - ¾" units: 30 psi (2,1 bars)
  - 1" units: 40 psi (2,8 bars)
- Filtration: 200 mesh (75 micron)

Models

- PRF-075-RBY: ¾" PR RBY Filter
- PRF-100-RBY: 1" PR RBY Filter*
- PRF-075-BFF: ¾" PR Back Flush Filter
- PRF-100-BFF: 1" PR Back Flush Filter*

**Available with BSP Threads*

Pressure Loss Characteristics

Flow (GPM)	PRF-075-RBY (psi)	PRF-100-RBY (psi)	PRF-075-BFF (psi)	PRF-100-BFF (psi)
0.2	3.0	N/A	3.2	N/A
1.0	4.0	N/A	4.1	N/A
3.0	6.1	0.8	6.2	0.5
5.0	10.0	2.0	10.3	2.1
8.0	N/A	3.8	N/A	4.1
10.0	N/A	5.2	N/A	5.3
15.0	N/A	12.0	N/A	12.6

Pressure Loss Characteristics **METRIC**

Flow (l/m)	PRF-075-RBY (bars)	PRF-100-RBY (bars)	PRF-075-BFF (bars)	PRF-100-BFF (bars)
0,8	0,21	N/A	0,22	N/A
3,8	0,28	N/A	0,28	N/A
11,4	0,42	0,06	0,43	0,03
18,9	0,69	0,14	0,71	0,14
30,3	N/A	0,26	N/A	0,28
37,9	N/A	0,36	N/A	0,37
56,8	N/A	0,83	N/A	0,87

Note: *Pressure loss for 200 mesh filter screen.*

PRF-075-RBY and PRF-100-RBY

PRF-075-BFF and PRF-100-BFF

An inline check valve is required if the Back Flush Filter is not at the highest point in the irrigation system (see page 235)

Inline RBY Filter

Static filter helps prevent plugging in a drip irrigation system.

- The simplest, most economical filter for low-volume irrigation systems.
- Simple to clean, as cap has a sealing O-ring and unthreads to provide access to the filter element.
- Strong and reliable due to its robust design and glass-filled polypropylene construction.

Features

- Male x Male threaded connections for direct connection to valves and pressure regulators.
- Replacement filter elements are available in 200 mesh (75 micron) and 150 mesh (100 micron).

Operating Range

- Flow:
  - ¾" units: 0.20 to 12.0 GPM (0,8 to 45,4 l/m)
  - 1" units: 0.20 to 18.0 GPM (0,8 to 68,1 l/m)
- Pressure: 20 to 150 psi (1,4 to 10,3 bars)
- Filtration: 200 mesh (75 micron)

Models

- RBY075MPTX (¾" Inline RBY Filter with 200 Mesh Screen)
- RBY100MPTX (1" Inline RBY Filter with 200 Mesh Screen)*

** Available with BSP threads*

Replacement screens also available:

- RBY-150MX (150 mesh screen)
- RBY-200MX (200 mesh screen)

Pressure Loss Characteristics

Flow Rate GPM	RBY075MPTX psi	RBY100MPTX psi
1.00	0.1	0.1
3.00	0.4	0.3
5.0	1.1	0.5
7.0	1.6	0.8
9.0	2.7	1.4
12.0	4.5	2.2
14.0	--	3.0
16.0	--	3.8
18.0	--	4.7

Pressure Loss Characteristics **METRIC**

Flow Rate l/m	RBY075MPTX bars	RBY100MPTX bars
0,8	0,00	0,00
3,8	0,01	0,01
11,4	0,03	0,02
18,9	0,08	0,03
26,5	0,11	0,06
34,1	0,19	0,10
45,4	0,31	0,15
53,0	--	0,21
60,6	--	0,26
68,1	--	0,32

Note: *Pressure loss for 200 mesh filter screen.*

● RBY075MPTX

Quick-Check Basket Filter

The only commercial-grade filter with a clean/dirty indicator for low-volume irrigation zones.

- Reduces maintenance and labor costs — the indicator tells you when to clean the filter, taking the guesswork out of cleaning the filter.
- Provides increased reliability – "No-spill" feature ensures dirt does not fall back into the filter during cleanup operation.
- Simplifies installation and maintenance – threaded top with O-ring makes it easy to remove and clean the screen.

Features

- Available in ¾" and 1" models
- Comes pre-assembled with 200 mesh (75 micron) stainless steel screen (other screen sizes available).
- Also available in Commercial Control Zone Kits (XCZ-100-B-COM and XCZ-150-COM).

Operating Range

- Flow
  - ¾" Basket Filter: 0.20 to 12.0 GPM (0,8 to 45,4 l/m)
  - 1" Basket Filter: 3.0 to 20.0 GPM (11,4 to 75,7 l/m)
- Pressure: 0-150 psi (0 to 10,3 bars)

Models

- QKCHK-075 (¾" Basket Filter with 200 mesh screen)
- QKCHK-100* (1" Basket Filter with 200 mesh screen)
- QKCHK-050M (50 mesh screen, yellow screen housing)
- QKCHK-100M (100 mesh screen, red)
- QKCHK-150M (150 mesh screen, blue)
- QKCHK-200M (200 mesh screen, white)

** Available with BSP threads*

● QKCHK-075

Pressure Loss Characteristics - QKCHK-075

Flow Rate GPM	200/150 mesh screen psi
0.20	0.0
2.00	0.0
4.00	0.1
6.0	0.4
8.0	0.9
10.0	1.3
12.0	2.0

Pressure Loss Characteristics - QKCHK-075 METRIC

Flow Rate l/m	75/100 micron screen bars
0,8	0,00
7,6	0,00
15,1	0,01
22,7	0,03
30,3	0,06
37,9	0,09
45,4	0,14

Pressure Loss Characteristics - QKCHK-100

Flow Rate GPM	200/150 mesh screen psi
3.0	0.0
5.0	0.0
7.0	0.4
9.0	0.7
11.0	1.1
14.0	1.6
17.0	2.3
20.0	3.2

Pressure Loss Characteristics - QKCHK-100 METRIC

Flow Rate l/m	75/100 micron screen bars
11,4	0,01
18,9	0,01
26,5	0,03
34,1	0,05
41,6	0,08
53,0	0,11
64,4	0,16
75,7	0,22

Note: *Pressure loss for 200 mesh filter screen.*

Commercial RBY Filters

Features

- Heavy-duty glass-filled UV-resistant polyester material.
- Pressure rated to 150 psi (10,3 bars).
- Available in 1½" and 2" models.
- Flows:
  - 1½" Unit: 55 GPM max. (208 l/m)
  - 2" Unit: 110 GPM max. (416 l/m)
- 1" FNPT inlet/outlet and ¾" manual flush port
- SC-SS stainless steel screen required

Models

- RBY 150C LSS (1½" Filter, no screen)
- RBY 200C LSS (2" Filter, no screen)

Stainless Steel Screens

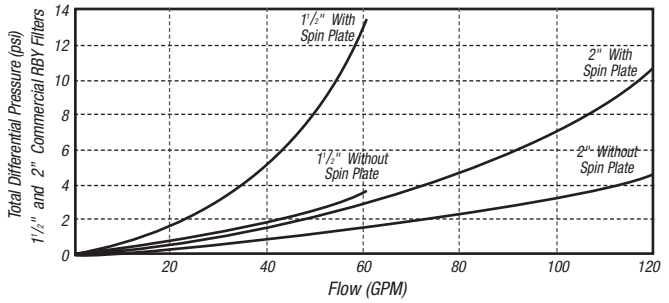
Features

- Use inside commercial grade RBY Filter (RBY150CLSS, RBY200CLSS).
- Available in 150- and 200-mesh size.
- Color-coded for easy identification: black–150-mesh, and red–200-mesh.
- Filtration element is made of durable stainless steel welded to color-coded polypropylene.
- Spin plate included.

Models

- SC 150 150 SS (1½" 150-mesh, stainless steel)
- SC 150 200 SS (1½" 200-mesh, stainless steel)
- SC 200 150 SS (2" 150-mesh, stainless steel)
- SC 200 200 SS (2" 200-mesh, stainless steel)

Pressure Loss Characteristics



How To Specify

RBY - XXX - C - LSS

Model

Y-Filter Inlet/Outlet Size
150 = 1½" Y-Filter Inlet/Outlet size
200 = 2" Y-Filter Inlet/Outlet size

Commercial Grade

LSS
LSS = Less Stainless Steel Screen

Specify the stainless steel screen for your specific application.

● RBY 150C LSS

● Stainless Steel Screens

Inline Pressure Regulators

Features

- Can be installed above or below grade.
- Preset outlet pressures: 30 psi (2,0 bars) and 40 psi (2,8 bars).
- ¾" or 1" NPT female-threaded inlet and outlet.

Operating Range

- Flow
  - PSI-L30X-075: 0.10 to 5.0 GPM; 6 to 300 GPH (0,4 to 18,9 l/m)
  - PSI-M30X-075, PSI-M40X-075: 2.0 to 10.0 GPM; 120 to 600 GPH (7,8 to 37,9 l/m)
  - PSI-M40X-100: 2.0 to 15.0 GPM; 120 to 900 GPH (7,8 to 56,8 l/m)
- Inlet Pressure:
  - 10-150 psi (0,7 to 10,3 bars)

Models

- PSI-L30X-075: ¾" 30 psi (2,1 bars) regulator for low flow (red label)
- PSI-M30X-075: ¾" 30 psi (2,1 bars) regulator for medium flow (yellow label)
- PSI-M40X-075: ¾" 40 psi (2,8 bars) regulator for medium flow (yellow label)
- PSI-M40X-100: 1" 40 psi (2,8 bars) regulator for medium flow

● PSI-L30X-075 PSI-M40X-075 PSI-M40X-100

Retrofit Pressure Regulator

Features

- Provides convenient 30 psi (2,1 bars) pressure regulation at the riser for any ½" FPT emission device or compression adapter.
- Can be installed above or below grade.
- Can be used with Xeri-Bird™ 8 Multi-Outlet Emission Device (see page 197).

Operating Range

- Flow: 0.50 to 4.00 GPM (1,9 to 15,1 l/m)
- Inlet Pressure: 15 to 70 psi (1,0 to 4,8 bars)

Dimensions

- ½" female-threaded inlet
- Height: 4" (10 cm)

Model

- PRS-050-30

● PRS-050-30

Check Valves

Features

- Use with a Back Flush Filter when filter is at a lower elevation than the rest of the system.
- Prevents downstream water from draining back into the valve box.

Operating Ranges and Specifications

- Pressure: 20 to 120 psi (1,4 to 8,3 bars)
- Threads
  - CV-075: ¾" FPT x ¾" FPT
  - CV-100: 1" FPT x 1" FPT

Models

- CV-075
- CV-100*

**Available in BSP threads.*

● CV-075

Control Zone Kit Selection Guide

NEW

Rain Bird Control Zone Kits provide all of the components necessary for on/off control, filtration and pressure regulation of a low-volume irrigation zone, making the kits simple to order and easy to install.

This quick selection tool will help you find the appropriate control zone kit for your application. Just answer a few simple questions to get recommendations below. Once you've narrowed down your choices, click on the kit image for detailed information and specifications.

Features

- Interactive format – helps choose the best Control Zone Kit for an application.
- Includes detailed drawings and specifications for each kit.
- Available at www.rainbird.com/drip/products/control.

Application and Design Guides

Specifier Application Guide

A tool to help Landscape Architects and other irrigation professionals in designing with drip irrigation.

- Offers a visual guide to identify drip appropriate application.
- Addresses design challenges.
- Shows design solutions.
- Includes product suggestions and CAD drawings.

Contractor Application Guide

A vidual collection of drip appropriate applications for Landscape Contractors, irrigation professionals and homeowners. Available in English (D39634) and Spanish (D39690).

- Shows various design approaches.
- Detailed materials list and lay out suggestions.
- Estimates for installation time and tasks.
- Time-saving installation and maintenance tips.

Contractor Application Guide

CAD / Detail Drawings and CSI Product Specifications

Now available in three popular formats and grouped in major product categories.

Features

- Links to download file.
- Available in three different formats (DWG, DXF, JPG).
- Drawings available for individual download or self-extracting compressed groups.

Lake Management Aerators to hose-end nozzles and most everything in between.

The job requires a variety of tools to speed the process and make things easier. Rain Bird offers a wide range of accessories that not only help to make you more efficient, but more comfortable as well, when tackling projects of every shape and size. Extending beyond knee pads and totes, Lake Management Aerators provide solutions for water sources that are ecologically out of balance. Practically anything you need, whenever you need it, Rain Bird has you covered.

Install Confidence.™
Install Rain Bird® Accessories.

WS
Wire Stripper

Features
- High quality black finish.
- Includes a pliers nose, cutter, wire loop and a locking feature.

Model
- WS

WS

Knee Pads

Features
- Lightweight and durable.
- Riveted plastic caps.
- Velcro adjustment straps.
- Green body with black cap.

Model
- KP-1

KP-1

PTFE Tape

Features
- Made from PTFE.
- Tape dispenses on plastic spool with snap on cover.
- Bar code packaging.
- Meets or exceeds MIL-Spec T-27730A.

Model
- PTFE -050: ½" x 520" tape (1,3 cm x 13,2 m)
- PTFE -075: ¾" x 520" (1,9 cm x 13,2 m) tape
- PTFE -100: 1" x 520" (2,5 cm x 13,2 m) tape

PTFE-050

Terry Towels

Features
- 100% cotton white terry cloth.
- Pre-washed and reusable.

Dimensions
- 14" x 17" (3,6 cm x 4,3 cm)

Model
- TOWEL18: Terry towels

TOWEL18

IS Series

Rain Bird Irrigation Supplement - Temporary or supplemental irrigation for indoor and outdoor use

- Irrigation Supplement is water bound in the form of a solid gel.
- All natural, non-toxic, harmless to humans and pets and is 100% degradable.
- Micro-organisms found in soil gradually break down the gel slowly converting RBIS back into liquid water at a consistent and steady release rate.

Features

- Water release rate is determined by the amount of gel surface that is exposed to soil.
- Capillary activity in the soil carries and maintains moisture throughout the root zone for an extended period of time.
- Quart carton is completely degradable and plastic tube and cap are re-usable or can be re-cycled.

Benefits

- Ideal for use in establishing native plants where permanent irrigation is not available or required.
- Helps increase survival rates of transplants by providing continuous moisture needed to reduce the stress of relocation.
- Provides additional moisture needed by re-plants in landscape areas without over watering existing plants.
- Eliminates evaporation, run off, and leaching through this efficient, sub-surface, slow release delivery method.
- Requires little to no maintenance and disperses moisture around the clock.

Applications

- IS-QT Applied either alone for 30-45 days of sub-surface moisture or in the Quart container for up to 90-days of moisture.
- IS-TG Applied where multiple applications are needed for longer periods of time.
- IS-PT Use as supplement irrigation for containerized plants and hanging baskets.
- IS-GP30 Preferred product for use in seasonal plants, small hanging baskets and window boxes.

IS-QT

IS-QT-SL

IS-TG

IS-PT

IS-GP

IS-GP30

IS Series (continued)

Dimensions

- IS-QT Quart Carton – Width: 2 7/8" (7,3 cm), Height: 9" (22,86 cm), Depth: 2 7/8" (7,3 cm)
- IS-TG Tube & Gel Pack – Diameter: 3 7/16" (8,73 cm), Length: 9" (22,86 cm), Cap: 3 1/2" (8,89 cm)
- IS-GP30 30-Day Gel Pack – Diameter: 2" (5,08 cm), Length: 6" (15,24 cm)
- IS-PT Perforated Tube and Gel Pack - Diameter: 3.46" (8,8 cm) , Length: 7" (17,8 cm)

Model

- IS-QT: Quart carton
- IS-TG: Tube & Gel Pack
- IS-GP: Gel Packs
- IS-GP30: 30-Day Gel Packs
- IS-PT: Perforated Tube and Gel Pack

Optional Features

- IS-QT-SL: Polyethylene sleeve for IS-QT

General Use Guide for Container Plants - 30 Day Product

Container Size (in)	Container Size (cm)	Number of 2" Gel Packs	Number of Perforated Tubes
6"	15.24	1	NA
8"	20.32	1-2	NA
10"	25.4	2-3	NA
12"	30.48	3-4	1
15"	38.1	3-5	1
18"	45.72	6-9	2
20"	50.8	9-10	3
24"	60.96	NA	4
32"	81.28	NA	6
36"	91.44	NA	8
48"	121.92	NA	12

General Use Guide for In-Ground Plants

Container Size	Height (ft)	Height (m)	(Units Per Plant) 30-Day Product	90-Day Product	Zones	In Ground Additional watering
1 gallon	1	0.3	1	1	1,2,4	–
	1	0.3	1	2	3,6	–
	1	0.3	2	3	5	–
	2	0.61	1	2	1,2,	–
	2	0.61	1	3	3,4,6	–
	2	0.61	2	3	5	–
5 gallon	2-3	0.61-0.91	2	4	1,2,3,4,5,6	–
	4-5	1.22-1.52	2	5	1,2,3,4,6	–
	4-5	1.22-1.52	2	6	5	–
10 gallon	5-6	1.52-1.83	3	5	1,2,3,4,6	–
	5-6	1.52-1.83	3	7	5	–
	7-8	2.13-2.44	4	7	1,2,3,4,6	–
	7-8	2.13-2.44	4	9	5	–
24"	8-9	2.45-2.74	4	8	1,2	*
	8-9	2.45-2.74	5	9	3,4,6	*
	8-9	2.45-2.74	5	10	5	*
	10-11	3.05-3.35	5	12	1,2	*
	10-11	3.05-3.35	5	13	3,4,6	*
	10-11	3.05-3.35	6	14	5	*
32"	12-13	3.66-3.96	6	14	1,2	**
	12-13	3.66-3.96	6	15	3,4,6	**
	12-13	3.66-3.96	7	16	5	**
48"	14-15	4.27-4.57	7	15	1,2	***
	14-15	4.27-4.57	8	17	3,4.6	***
	14-15	4.27-4.57	9	21	5	***

**** Every 45 days ** Every 30 days *** Every 21 days***

Zones:
1 - Pacific Northwest, Hawaii, Northeast, North Central
2 - Coastal Southeast, Southwest Coast Line
3 - Southern Florida
4 - Middle Southeast, Central California
5 - Southwest
6 - Rockies, Great Basin, Great Plains, Alaska

- *The rate at which product liquifies varies based on several factors resulting in usage life that may be shorter than 30 days. Users are advised to check product at least two week prior to the specified application time.*
- *The recommended number of units is based on average needs of medium water use plant material.*
- *The amount of units used can be adjusted for extreme dry or wet climate conditions.*
- *Excessive heat, wind, and plants with extensive foliage or fruit will require additional watering.*
- *Irrigation supplement is designed to significantly reduce the time between watering cycles for container plants.*
- *The frequency at which you will apply water will depend on the climate and the plant materials.*
- *Plants in above ground containers dry out faster than those planted in the ground. When IS is used in this manner, additional watering will be needed.*
- *Users are advised to observe plants for any signs of stress, then water immediately to avoid damage to plant.*

LM Series

Single Pattern Lake Management Aerators

- Effectively work to maintain an ecological balance in lakes or ponds less than 15 feet (5 m) deep.
- Keep lakes and ponds beautiful by stimulating vertical circulation and adding dissolved oxygen to the water.
- Maintain sufficient water quality that prevents undesirable algae build-up, over-growth of weeds, unpleasant odors and depleted fish population.

Features

- Available in 1 - 5 HP pumps, 115V, 230V, single and three-phase.
- All LM units are factory assembled, delivered ready to install.
- Heavy-duty 304 stainless steel arms support a float filled with US Coast Guard-approved closed cell foam, for maximum buoyancy.
- Stainless steel housing contains a custom-built electric motor, designed to move high volumes of water and provide years of dependable service.
- Unique pumping chamber attachment on the motor housing allows high pumping rates for maximum circulation.
- Deflector plate provides an appealing display.
- Fine mesh screen prevents the intake of debris to allow the continuous flow of incoming water, and ensures full and symmetrical spray patterns when in operation.
- LM11 only - virtually unbreakable stainless steel chopper-style prop.
- Specially designed float rings allow the unit to ride level in the water.

Specifications

- Unit: Manufactured of corrosion-resistant, 18-8 stainless steel and high-density thermal plastics. Corrosion resistance allows unit to be installed in almost all water source types.
- Float: Green exterior shell is made of high-density thermal plastic polyethylene. The interior of the float is closed-cell polyethylene.
- Motor: Custom-built electric motor with dynamically balanced rotors. Encased in a stainless steel housing that is completely hidden from view.
- Cable: All units are shipped with underwater cable, ordered separately with 50 feet minimum, in 25 foot increments.*
- Screen: ¼" nylon fine mesh water intake screen for LM10, LM20 and LM30 models only.
- Power Control Center: Nema 3R rated control center includes ground fault interrupt; magnetic starter; surge arrestor; power disconnect; 24-hour on/off timer.
- Warranty: Backed by Rain Bird® Customer Satisfaction Warranty.
- Safety Testing: Components UL and CSA listed; assembly tested and approved by ETL, ETL-C and CE.

Models

- LM10: Principal feature is a one-plume geyser-like spray pattern that rises high into the air
- LM11: Well proportioned fan-shaped spray, it a perfect balance of form and function
- LM20: The dual spray pattern operates at a lower pumping rate.
- LM30: Differentiating feature is its multi-dimensional three plume design

Optional Features

- 3-light set systems run on 12-volt power and are available with 65-watt halogen bulbs.
- Colored lenses in red, blue, green and yellow.
- Intake screen is optional for LM11.

** 10 gage underwater cable ordered separately in 25 foot increments.*

● **LM11**

● **LM20**

LMM Series

Multi-Pattern Lake Management Aerators

- Effectively work to maintain an ecological balance in lakes or ponds less than 15 feet (5 m) deep.
- Keep lakes and ponds beautiful by stimulating vertical circulation and adding dissolved oxygen to the water.
- Maintain sufficient water quality that prevents undesirable algae build-up, over-growth of weeds, unpleasant odors and depleted fish population.

Features

- Available in ½ and ¾ HP, ,115V, 230V, single phase pumps.
- All LMM units are factory assembled, delivered ready to install.
- Manufactured entirely of stainless steel and thermal plastics to provide years of dependable service.
- Stainless steel debris screen prevents the intake of foreign objects to allow the continuous flow of incoming water, which ensures aesthetically pleasing spray patterns.
- Mini Power Center is encased in industrial-grade, non-corroding case to assure reliability.
- Spray pattern can be changed to LM10, LM20 or LM11.
- Diffuser ring allows the spray pattern to be varied in height and diameter (LMM with LM10 and LM11 patterns only).

LMM shown with LM20 pattern selected

Specifications

- Unit: Manufactured of corrosion-resistant, 18-8 stainless steel and high-density thermal plastics. Corrosion resistance allows unit to be installed in almost all water source types.
- Float: Black exterior shell is made of high-density thermal plastic polyethylene. The interior of the float is closed-cell polyethylene. Each float consists of specially designed float rings, which call the unit to ride level in the water.
- Motor: Custom-built submersible, water-cooled, corrosion-resistant, stainless steel motor. Constructed to run continuously and is available in 60 Hz @ 3450 RPM.
- Impellers/Props: Manufactured of polyphenylene oxide, modified. Material is corrosion-resistant to most all types of water, salt solutions and acids.
- Cable: All units are shipped with underwater cable, ordered separately with 50 feet minimum, in 25 foot increments.*
- Mini Power Center: 115V unit controls are enclosed in a 5" x 5" x 4" industrial-grade, all plastic, non-corroding case. 115V controls consist of 24-hour on/off timer and GFI. 230V units are enclosed in a 11" x 11" x 6" high-impact, corrosion-resistant thermal plastic, Nema rated type 3S. 230V unit controls consist of 24-hour on/off timer, fuse or circuit breaker protection and GFI.
- Screen: Corrosion-resistant 18-8 stainless steel intact screen to efficiently prevent clogging.
- Warranty: Backed by Rain Bird Customer Satisfaction Warranty.
- Safety Testing: Safety tested and approved as a package by ETL, ETL-C and CE.

Models

- LMM: Adjust the diffuser ring to change the pattern from LM10, 11 or 20

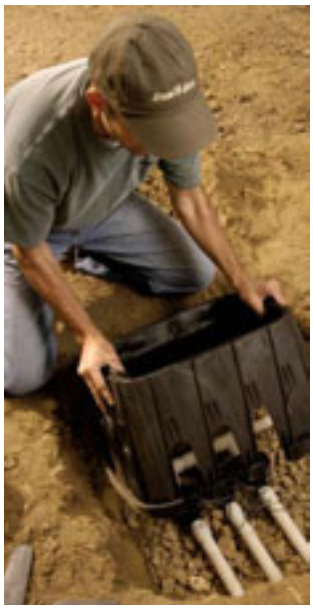
Optional Features

- 2-light set systems run on 12-volt power and are available with 20-watt halogen bulbs. Stainless steel mounting brackets facilitate installation to achieve a variety of illumination effects.
- Colored lenses in red, blue, green and yellow

**12 gage underwater cable ordered separately in 25 foot increments.*

Training & Resources





The tools and training you need to succeed

Rain Bird offers a range of resources and training classes specifically designed to elevate your understanding about a variety of topics that will help to make what you do for a living that much more efficient and profitable.

Rain Bird® Contractor Management Software

Developed exclusively for the irrigation industry.

- Rain Bird CMS Pro - designed for the irrigation contractor allows you to perform routing, scheduling, invoicing and contact management functions.
- Ideal scheduling software for field service companies to manage their office and field efficiency and productivity with seamless integration with QuickBooks, Simply Accounting and AccPac and eliminating duplicating effort.
- Allows businesses to increase customer satisfaction, improve employee productivity, and gain additional revenue. Rain Bird Pro software increases profit without adding new customers or employees.

• **Rain Bird CMS Pro** is a full featured software solution - is a completely paperless system that ties field crews electronically to the office through the use of handheld devices.

Office Features:

• **Contact management:** Schedule reminders for appointments, service calls and vehicle maintenance.

• **QuickBooks Integration:** Rain Bird CMS Pro will import customer information from QuickBooks 2003 or higher, allowing to maintain your customer database. It's able to pull and send customer, inventory, estimate, account balance, and employee information eliminating duplication.

	CMS Pro
Paperless	•
One-time and Recurring Scheduling	•
Extensive Customer Database	•
Database Backup	•
Reminder System	•
Multiple Calendars	•
Location Maintenance	•
Work Order Maintenance	•
Service Maintenance	•
Technician Maintenance	•
Product Maintenance	•
Employee Maintenance	•
PDA Interface	•
Field Remarks and Messaging	•
Immediate Time Card Capture	•
In-Field Invoicing	•
In-Field Estimates	•
Estimate Maintenance	•
One-Touch QB Invoicing	•
One-Touch QB Timesheets	•
Fleet Management	•
Paperless Field-to-Office System	•
90-Day Warranty	•
Tech Support	Free! Unlimited!
Updates	Free! Unlimited!
Call Logging Add-On	Available
ProfitMaxx™ Management Reports	Available

● **Work Order Screen-Crew Schedule**

- **Multiple Office Users:** Install as many as 10 workstations in-office, all working together in real-time so your information is always accurate and shared. Administrator can delegate duties by setting "rights" per user.
- **Database Backup:** There is a manual backup included so you'll never have to worry about losing your information. The standard Windows can also be set to run an automatic backup.
- **Efficient Scheduler:** Reduce customer phone time by 50% - scheduling a standard work order can take less that 45 seconds, improving your office productivity. The scheduler also displays a running customer history with the ability to add information to the customer record right from the scheduling screen.
- **Extensive Customer Database:** Ability to keep extensive notes (attach files, drawings, 'as-built') for your customers. Special messages can be setup to appear each time your scheduler pulls up the customer for additional information.
- **Multiple Calendars:** Daily and weekly master calendars, calendars by technician, by customer, and to view scheduled time versus actual time. Sorted by technician for up to five days, reducing rescheduling due to conflicts and helps spread workload.
- **Accounts Receivables:** Customer accounts receivable information is readily displayed on the scheduling screen when using QuickBooks, AccPac or Simply Accounting software.
- Use your customer database to print mailing labels for marketing and scheduling seasonal service calls.
- **Service Maintenance/Billing:** A full customizable system allowing you to tailor the billing to your business. You can also setup discounts and price levels for customers.
- **Work Order Maintenance:** An extensive section devoting to view information on the work orders, including exact time-in and time-out records, parts used, field comments, incomplete work order reminders, and invoicing options.
- **Payroll:** Update daily time card payroll information directly to your accounting package, eliminating double data entry and improving office efficiency.
- **Inventory Management:** Invoices parts used immediately by downloading them directly into accounting software.
- **Management Reports:** Generate work order reports by Technicians, material usage reports and timesheets. ProfitMaxx™ add-on takes all the hard data that Rain Bird CMS gathers and turns it into management reports that can show you every facet of your business. Growths, pain points, income and expenses all are tracked and delivered in easy-to-read reports allowing you to be on top of the game.
- **Call Logging Add-On:** This add-on allows you to track every call into and out of your office. Every call is accompanied by a pop-up window that can display phone number, caller ID and customer ID. Added to that is the ability to log a note on that call to be added to the customer history. Or you can type in a message to be sent to someone else in the office.

Field Features:

- **User Friendly:** A newly designed interface gives the technicians a simple tool to replace the paper work order. Color coded buttons allow the technicians to easily identify tasks and their status.
- **Job Information:** Detailed notes on the service and the customer are available.
- **Time-Card:** With immediate time-card capture, you get every billable minute you should, right when it happens without rounding off valuable minutes. Track technician activity by using customizable work categories. "Shop Time" and "Lunch" can be automatically placed on each PDA's schedule, allowing you to track the whole day.
- **Parts Record:** The PDA records each part the technician uses. This allows you to keep accurate records on what parts were actually used, entered when they were used.
- **Field Remarks:** Ability to customize Parts and Remarks Categories such that it allows the technician in the field, assigned to a specific service to access only those relevant to the service. The feature prevents excessive scrolling and reduces time in the field.
- **Immediate Invoicing:** The technician - with the aid of a portable printer - can print invoices in the field immediately after finishing the job. This means your Accounts Receivable (i.e. cash flow) will improve. All field remarks, pricing, sales tax and any customer discounts are automatically computed by the PDA.
- **Signature Capture:** Whether you invoice immediately or not, you can still have the customer sign directly on the PDA. This signature will be saved digitally with the invoice and word order record and acknowledgement from the customer.
- **New Work Orders:** New work orders can be created in the field. These work orders can be assigned a customer (and receive all the necessary customer information) and/or a work order number supplied by the office, ensuring the information will get where it needs to go.
- **Estimates:** Estimate can be created in the field as well, allowing on the spot printable bidding to keep you competitive. It also has the ability to track bid versus actual usage and expense.
- **Vehicle/Equipment Maintenance:** Tracking vehicle mileage will translate into complete vehicle maintenance in the office, letting you know when you need to change the oil or go in for a tune-up.
- **Remote Syncing:** You technicians don't need to waste time driving into the shop each day. Using the phone line from their house, they can connect their PDA to modem which can dial in to the office computer, downloading and uploading all the necessary information.

Rain Bird Academy

Irrigation Classes

Irrigation Training Camp (English or Spanish) - 16 Hours

Electrical Troubleshooting

Even the most challenging electrical problems won't hold you back after this! You'll learn the best methods for efficiently testing and isolating wire faults, bad solenoids and controller problems using a multimeter. Learn tips on time-saving field troubleshooting techniques and procedures.

Controller Programming and Troubleshooting, Surge Protection & Grounding, Wire Tracing

In this class we will cover the basic concepts of effective and efficient irrigation programming. You'll learn how to efficiently locate, troubleshoot and repair problems. You will be shown how effective surge protection tied into a proper grounding system can reduce the potential of costly damage to your electrical system. We will cover techniques used to achieve effective grounding. Finally we go through wire tracing techniques that will help save time when problems arise.

Spray Head, Rotor and Valve Troubleshooting

This practical, hands-on class is a must for maximizing the day-to-day efficiency and long-term reliability of your customers' systems. You'll learn the most effective ways to troubleshoot spray heads, rotors and impacts and perform a thorough examination of valve operations. You will be given insights from leading experts on how to identify and overcome existing and potential problems to ensure peak performance. By understanding the available features, you will gain confidence that you are selecting the best components for the right situations.

Basic Hydraulics and Design Principles

Make sure each irrigation system you design is technically accurate and professionally planned to deliver peak performance. In this half-day course, professionals walk you through the entire irrigation system design process, from basic hydraulics to calculating system requirements. You'll learn inside tips on sprinkler layout, calculating precipitation rates and irrigation scheduling. Practical advice will help you select the best products.

Certification Quizzes (Mandatory for ASC Basic Certification)

Put your knowledge to the test! These comprehensive, open-book quizzes ensure those who receive ASC certification from Rain Bird have the education and technical experience to provide exceptional irrigation systems support.

Introduction to Irrigation and Installation (English or Spanish) – 8 Hours

So, you're new to the irrigation industry or you have never had an opportunity to get your hands on any product, now is your chance. In this introductory course you will learn the basics of irrigation installation. Topics that will be covered: Introduction to irrigation, product identification and terminology, basic design procedures, techniques in installation and set-up, troubleshooting and maintenance of newly installed systems.

Spanish Phrases for English Speakers - 4 Hours

Communication is key when working with sub-contractors and work crews. The last thing you need is a language barrier when a job has to be finished quickly and efficiently. This course covers basic Spanish phrases commonly used and needed in the Green Industry.

Irrigation Contractor Course - 16 Hours

This course deals directly with the issue of wise water management. Students learn how to perform field tests on irrigation systems to determine their efficiency, and how to combine plant water use, soils and local weather data to calculate accurate water schedules. Also included is a review of advanced soil water plant relationships, advanced hydraulics, pumps, job safety requirements, national codes affecting our industry, scheduling, water conservation, and system uniformity and efficiency details. This class is designed to refresh irrigation contractor skills; may also serve as a good review for the Irrigation Association CIC exam.

Intelligent Water Management - 4 Hours

The need to conserve water has never been greater. Through experience and case studies, we can make every drop count. This class provides an overview on how to use water intelligently in the following areas: Proper soil types and structure, type of plants, water efficient irrigation products, sensors and moisture equipment, assessing irrigation systems, auditing and basic water scheduling.

Landscape Drip/Xerigation - 4 Hours

This class provides hands-on practice and insight on how to efficiently design and install effective landscape drip irrigation systems. Attendees learn the four key elements of drip design: system layout, system hydraulics, product selection, and scheduling. Don't let drip irrigation design confuse you; it can be a dynamic water saver and problem solver.

Authorized Service Center Program Courses

ASC Basic Level - 16 Hours

Basic ASC level is achieved by completing Irrigation Training Camp.

ASC Premium Level - 16 Hours

Take your knowledge of controllers and your repair skills to the next level of sophistication with this intensive course. Training begins with the basics of electronics theory and component identification, along with how to read schematics and soldering techniques. This course focuses on electromechanical and solid-state controller repairs.

ASC Technical Repair Center - 8 Hours

Become one of the best in the field of controller repair with this course by studying advanced solid-state controller troubleshooting and circuit board-level repair.

Contractor Business Skills Courses

Financial Management for the Irrigation Industry - 6 Hours

Find out why you don't make as much as you expected, spend less time on your books and make your financials show where the problem areas of your business are. Practice with industry proven financial tools, forms and spreadsheets, as well as industry benchmarks to understand and manage the financial side of your business. You will learn: How to set up an accounting process - How to use key ratios to identify problems - How to use costs to set labor rates and create a budget using key financial data.

Profitable Job Estimating - 6 Hours

Discover how to make sure you make your profit margins for each job, each month and the year. Learn to use the tools for pricing and bidding contracts with consistent profitability. Find out the strengths and weaknesses of the most commonly used estimating systems. Topics include: how to set up service line pricing strategies - Apply different estimating processes to find out what system will work best for your business - Use current industry benchmarks for bidding and other successful estimating tools to enhance your profitability.

Customer Selling Skills - 6 Hours

Find out why you can't connect with some customers and how to improve your close rates with them. Practice a consistent proven sales process to improve your sales volume month after month. Explore how to set up a value proposition (to sell value instead of price), set up a selling process, and track your sales to maximize annual revenues and focus on creating long-term customer relationships to maximize referrals. you will get real world tools for business development and revenue management. Practice using the best known methods for maximizing a sales call and improving your sales volumes at higher margins. See how to set up a sales plan and sales goals.

Rain Bird Irrigation Training (continued)

Irrigation Design Classes

Intermediate Design (English or Spanish) - 8 Hours

The key to popularity of this course is its "practice what you learn" approach. Throughout the day, there is the opportunity to perform practical exercises in residential design and drip design applications. Gain and reinforce the following concepts:

- Hydraulics
- Determining irrigation requirements
- Selecting sprinklers and spacing ranges
- Locating valves
- Proper layout of valve groups
- Sizing pipe and valves
- Calculating system pressure requirements
- Site location of controllers
- Preparing a final irrigation plan

Advanced Irrigation Design (English or Spanish) – 8 Hours

This advanced level irrigation design class will give you an opportunity to work with many of the more difficult aspects of commercial design projects. This is a high level design course that requires a working knowledge of hydraulics and design. Prerequisite: Irrigation Design or five years field design experience.

Landscape Drip / Xerigation® Design (English or Spanish) – 8 Hours

In this course, attendees will go through the 5 step drip design process. The steps include gathering site data, calculating the plant water requirement, choosing emission device(s), calculating application rate & run time and preparing a system layout. It is important that students have a strong working knowledge of low volume products and their uses before taking this class. It is recommended that they take Landscape Drip/Xerigation before taking the Landscape Drip/ Xerigation Design class.

Central Control Training Courses

These courses start with the basics of programming, monitoring, and reporting of irrigation operations for central control stations. The basic class introduces users to the software and its primary functions related to basic irrigation operation. Emphasis is placed on programming, scheduling, and monitoring the irrigation process. The level 2 class walks the user through the key points of the start-up process, effectively integrating Flo-Manager and databases for importing and establishing maps. This class will also cover troubleshooting techniques, and incorporation of “smart” features into programs and schedules.

MDC Decoder System - 6 Hours

Learn proper hands-on installation, troubleshooting and programming skills. Installation includes proper wiring, splicing and system configuration. Attendees are taught how to use a clamp meter to perform proper troubleshooting methods and how to program the controller and operate software.

IM Controller - 4 Hours

Learn to manage water with this advanced stand-alone controller. This course will cover proper ET and water budget programming along with the use of sensors.

Site Control/Central Control Level 1 - 8 Hours

Level 1 Training is the basic class for the person responsible for the programming, monitoring, and reporting of irrigation operations. This basic class introduces users to the software and its primary functions related to basic irrigation operation. Emphasis is placed on programming, scheduling, and monitoring the irrigation process. This course requires that the user have a working knowledge of the Windows 98, 2000, or XP.

Site Control/Central Control Level 2 - 8 Hours

Level 2 Training is the intermediate class for the person responsible for the programming, monitoring, and reporting of irrigation operations. This class walks the user through the key points of the start-up process, effectively integrating Flo-Manager and databases for importing and establishing maps. This class will also cover troubleshooting techniques, and incorporation of “smart” features into programs and schedules. This course requires that the participant have a current certificate of completion of the Site Control Level 1 training class.

Maxicom® Central Control Hardware Level 1 - 16 Hours

Basic Installer Training is the beginning step for the contractor engaged in the business of central control irrigation system installation. This training introduces and defines the role of the system hardware components. Hands-on installation activities with the central controller, Site SAT, Cluster Control Unit, Satellite and flow sensors are included. The participant should have a prior working knowledge of the landscape irrigation system including sprinkler, valve and controller installation.

Maxicom® Central Control Software Level 1 - 16 Hours

Basic Operator Training is the second step for the person responsible for central control system programming, monitoring and reporting. This training will introduce the participant to the software and it's primary functions related to basic irrigation operation, monitoring, programming and reporting only. Scheduling complexity is equal to that of a stand-alone irrigation controller program. This course requires that the attendee have a working knowledge of Windows 98/2000.

Maxicom® Central Control Hardware Level 2 - 16 Hours

Intermediate Installer Training is the second step for the contractor engaged in the business of central control irrigation system installation. This training includes all components in the Basic Installer Training with the addition of the weather station, site rain can, anemometer and the Freedom System.

Maxicom® Central Control Software Level 2 - 16 Hours

Intermediate Operator Training is designed for the person responsible for central control system programming, monitoring and reporting. This training covers ET based irrigation scheduling, “Flow Manager”, “Flow Watch”, “Rain Watch”, and “Wind Watch” programming. Freedom System operation is included. Scheduling complexity addresses sophisticated mainline networks and issues related to excessive flow detection, rainfall and wind response.

Maxicom® Central Control Hardware Level 3 - 16 Hours

Advanced Installer Training is the third step for the contractor engaged in the business of central control irrigation system installation. This training includes our highest level of hands-on installation activities with all central control components including the items from all prior levels as well as Site Survey equipment, Spread Spectrum modems and pump station integration with the central control system. Additionally, the training focuses on earth ground testing, wire tracking, coax/cable splicing, maintenance and troubleshooting.

Maxicom® Central Control Software Level 3 - 16 Hours

Water Manager Training is designed for the person engaged in the business of irrigation system management and monitoring. This training covers advanced programming, monitoring and reporting functions common to the business of irrigation water management. This training involves discussions of soil, plant and water relationships and advanced ET based irrigation scheduling. Exercises will deal with programming for a water shortage, flow monitoring and reporting, and reaction to environment and atmospheric input.

Packaged System Enclosures

Features

- Robust, customized enclosures for central control controllers and components are specified to match specific project requirements and arrive as "plug and play assemblies – pre-assembled, factory-tested, and ready to install. The internal pre-wiring reduces field installation time.
- The enclosures are NEMA rated and UL labeled, ensuring a professional appearance while keeping the housed central control components safe from weather elements, vandalism, pests, and other environmental elements.
- Packaged system enclosures are available in wall-mount or pedestal versions for Maxicom, MDC, Site Control, and other controller designs including the newly-released LX-Modular controller.

Standard Model Designations

Pedestal

- Choose from standard stainless steel pedestals including single, double, or triple position models with front-opening or flip-top designs.

Wall-Mount

- Neatly packaged wall-mounted units – stainless steel (standard) or powder coated designs with RBSC's unique swing-panel feature to allow ease of operation and maintenance accessibility.

Specifications, Drawings, and Options

- RBSC's packaged systems are customizable to include the exact central control components and ancillary items such as lightning protection, communications options, flow monitoring, and others. Standard specifications, part numbers, and reference drawings are available through Rain Bird Services Corporation. Packaged Systems enclosures can be purchased through your local Rain Bird central control distributor.

● Packaged System

● Packaged System Pedestal

Central Control Programming Services

Features

- Rain Bird Service Corporation's expertise delivers complete, accurate central control database and schedule sets, designed for the individual sites' specific irrigation conditions, needs, and circumstances.
- Set-up of automatic and/or manual schedule configurations, ET scheduling, Flo-Watch and Flo-Log set-up, and utilization of built-in software feature sets to optimize water conservation and irrigation efficiency.
- Follow-up services available on-site or remote via pcAnywhere. Rain Bird Services Corporation will contact your central control system via modem after the programming services are provided to verify and review performance and results.

How to Specify:

Maxicom Programming Part Numbers:

- M2DBPRG – Maxicom programming & basic irrigation schedules

Optional Maxicom Programming Services:

- M2DBLITE – Lighting
- M2DBRAIN – Rain Watch
- M2DBWIND – Wind Watch
- M2DBFREZE – Freeze Watch
- M2DBMISC – Other schedules/services

Site Control Programming Part Numbers:

- SCDBPRG – Site Control programming

Optional Maxicom Programming Services:

- SCDBRW – Rain Watch
- SCDBSW – Add Smart Weather to programming
- SCDBSS – Add Smart Sensor to programming
- CCDACN – System data collection

Please contact Rain Bird Services Corporation for additional information or specifications.

Rain Bird® Rewards

It pays to install Rain Bird. Contractors can earn points from their Rain Bird purchases and redeem those points for valuable rewards. All professional landscape and irrigation contractors can join. There are no purchase or eligibility requirements at the Rewards level. Contractors can earn points on these professional Rain Bird Landscape Irrigation Products*: sprays, rotors, valves, controllers, landscape drip, pump stations, and accessories.

At the Select Contractor levels there are certain purchase and professional responsibility requirements contractors must meet and maintain. Please call your Rain Bird Sales Representative or the Rewards Program office for more information.

Contractors can redeem points for these great items:

- Advertising and Marketing Services
- Merchandise including electronics, apparel and tools.
- Gift Cards
- Rain Bird CMS Pro Software
- Distributor Credit
- Irrigation Training
- Cash

How to Order Brochures

- Distributors order through your Rain Bird Distributor Service Representative
- Item numbers:
  D39706 Program Brochure
  D39551B Enrollment Brochure

Rain Bird Rewards Member Guides are automatically sent to every registered Rewards participant.

● **Rewards Program Brochure**

● **Rewards Enrollment Brochure**

Rain Bird® Agency Rewards™

Rain Bird knows that agencies must make the most of every dollar spent on irrigation. Rain Bird Agency Rewards helps them reinvest their irrigation budget in their agency and their people. Program rewards include:

- Irrigation Training
- Professional Development Funds
- Product and Industry Reference Literature
- Distributor Credit
- Cash

Rain Bird Agency Rewards is designed exclusively for public and non-profit agencies in the United States and Canada. By enrolling in this program, the agency is eligible to earn points on every purchase of these Rain Bird Landscape Irrigation Products*: sprays, rotors, valves, controllers, landscape drip, pump stations, and accessories.

How to Order Brochures

- Distributors order through your Rain Bird Distributor Service Representative
- Agencies order through Rain Bird Rewards: rewards@rainbird.com or 1-888-370-1814
- Item number: D37341*x*

● **Agency Rewards Enrollment Brochure**

Program Enrollment Information

To enroll in Rain Bird Rewards or Rain Bird Agency Rewards, or for additional program information, please visit www.rainbird.com/rewards or call the Rain Bird Rewards Program Office at (888)-370-1814 (toll-free).

**Program members earn points by purchasing qualifying Rain Bird Landscape Irrigation Products from authorized Rain Bird distributors. Landscape Irrigation Products include all residential, commercial, landscape drip and accessories products, but do not include golf, central control, agricultural or consumer products and parts, or any other products that Rain Bird designates as non-qualifying. Rain Bird reserves the right to amend or discontinue the Rain Bird Rewards or Rain Bird Agency Rewards programs in accordance with the respective Program Agreements (available at www.rainbird.com/rewards).*

Interactive Media Kit

Rain Bird distributors and contractors can use resources on this CD to produce marketing materials featuring Rain Bird products. This CD set contains:

- Product presentations and photography
- Rain Bird logos and fonts
- Print-ready ads, postcards, and posters
- Guides to create your own marketing materials

System Requirements

- Mac or PC with Window® or later and CD ROM drive
- Adobe Acrobat Reader™

How to Order

- Distributors order through your Rain Bird Distributor Service Representative
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Item number: D37348*x*

Tools to Install Confidence CD

Rain Bird distributors and contractors can use resources on this CD to reference and print Rain Bird product literature in PDF format including:

- Catalogs, tech specs, and brochures
- Instruction manuals
- Product fact reports

System Requirements

- Mac or PC with Window® or later and CD ROM drive
- Adobe Acrobat Reader™

How to Order

- Distributors order through your Rain Bird Distributor Service Representative
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Item number: D37201*x*

Rain Bird Online Image Library

All Rain Bird customers can take advantage of the resources in Rain Bird's online image library for creating your own marketing and promotional materials. The library contains many images from the Landscape Irrigation Products catalog organized by category for easy preview and downloading. Rain Bird requests a courtesy credit for use of the images.

The online image library contains:

- Irrigation beauty shots
- Product photography
- Rain Bird Logo in a variety of downloadable formats
- Rain Bird Logo Usage Guidelines
- Sample ad slicks for contractors and specifiers

Availability

- www.rainbird.com/library

Intelligent Use of Water Brochure

Rain Bird distributors and contractors can use this general pre-sales brochure to help establish professionalism and credibility with prospective customers. This brochure showcases:

- Importance of water conversation
- Rain Bird's beginnings and history of innovation
- Products to meet the world's irrigation needs
- Rain Bird's commitment to producing reliable and durable products

Specifications

- Folded size is 4" wide x 9" high
- Opens to show four inside panels
- Full color
- Packs of 25

How to Order

- Distributors order through your Rain Bird Distributor Service Representative
- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Item number: D39566*x*

Protecting Your Investment CD

Contractors can leave a long-lasting, professional impression with their customers by providing this helpful CD to homeowners after installation. The label and presentation can be customized with your company name and contact information. This CD demonstrates how to perform basic adjustments and maintenance to Rain Bird products:

- Controllers
- Valves
- Rotors
- Sprays
- Rotary nozzles
- Xerigation®

System Requirements

- PC computer with Windows® 98 or later and CD ROM drive

How to Order

- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814

Right Choice for a Beautiful Landscape Presentation Folder

Contractors can enhance their professionalism by using this sales brochure and insert with your own promotional materials in the pocket folder when presenting your services to homeowners. The information in the brochure educates homeowners about irrigation basics, benefits of an automatic sprinkler system, choosing a contractor, and more.

Specifications

- Folded size is 8⅞" wide by 12" high
- 8 pages in full color
- Pocket folder inside the front cover
- Business card insert
- Designated space inside for your company label

How to Order

- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Item number: D39599*x*

Right Choice for a Beautiful Landscape CD

Contractors can use this sales CD as a companion or an alternate to the Right Choice for a Beautiful Landscape Presentation Folder when presenting your services to homeowners. This CD is an interactive tool for educating prospective customers about irrigation basics, benefits of an automatic sprinkler system, choosing a contractor, and more. The CD can be customized with your company logo, contact information, and a brief description of services.

System Requirements

- Macintosh or PC computer with CD ROM drive

How to Order

- Rain Bird Rewards Members: rainbird.com/rewards or 1-888-370-1814
- Item number: D39509

Right Choice Product Sheets

Individual product sheets in the Right Choice marketing theme are available for many Rain Bird products. These product sheets are used by contractors when presenting and recommending products to homeowners. The individual product sheets show photos and list benefits to educate homeowners on the performance and quality of the specific Rain Bird products that you are recommending to them. Various product sheets for residential spray heads, rotors, controllers, valves, rain sensors and more are available.

Specifications

- Size is 8½" wide a 11" high
- Single page with printing on one or both sides
- 3-hole punched
- Full color
- Packs of 25

How to Order

- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Item number: various

Homeowner Sales Folder

Presentation folders in the Right Choice marketing theme are used by contractors when presenting services to homeowners. The front cover is printed with Rain Bird logo and the headline "An Automatic Sprinkler System for your home."

Specifications

- Folded size is 8¾" wide a 11¾" high
- Two inside pockets
- Business card insert
- Full color
- Packs of 25

How to Order

- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Item number: D38682*x*

Water-Saving Tips Brochure

Contractors keep this convenient pocket brochure on hand for homeowners. It provides helpful information for keeping a lush, green yard while using less water with an automatic sprinkler system:

- Practical maintenance tips
- Common problems, causes, and solutions

Specifications

- Folded size is 3½" wide x 6" high
- Opens to show four inside panels
- Full color

How to Order

- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Item number: D39498

Smart Way to a Beautiful Landscape Door Hanger

A professionally installed automatic sprinkler system is clearly the way to go. Contractors can affix a label with company contact information and use these door hangers to deliver this sales message to homeowners.

Specifications

- 5' wide x 12" high
- Full color
- Tear-off reply card for a free estimate
- You affix your company label as return mail address on reply card
- Packs of 50

How to Order

- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Item number: D38616*x*

Watering the Old Fashioned Way Direct Mailer

Contractors can make a clear case to homeowners for a professionally installed automatic sprinkler system. This two-way mailer compares the ease, convenience, and water savings of an automatic system to the hose-end watering.

Specifications

- 3¾" wide x 9" high
- Opens to 4-panel spread
- Tear-off reply card for a free estimate
- You affix your company label as return mail address on reply card
- Full color

How to Order

- Contractors order through Rain Bird Rewards: rainbird.com/rewards or 1-888-370-1814
- Item number: D38535*x*

Online Water-Savings Calculators

Rain Bird has several online calculators available that will help you show your customers the potential water savings of using water-efficient Rain Bird products:

- 1800-PRS Sprays
- 5000/5000Plus PRS Rotors
- 5000/5000Plus MPR Rotor Nozzles
- TSJ-PRS Swing Joints
- U-Series Nozzles
- Common Irrigation Conversions

Availability

www.rainbird.com/calculators

Spec Draw CD-ROM

Detailed drawings show the correct way to install Rain Bird's products. The drawings are provided in four formats:

- DWG for AutoCad
- DXF for other CAD programs
- JPG for Internet browsers
- WMF for Word or PowerPoint documents

The CD also contains written specifications for products, and sports field layouts in DWG and PDF formats.

System Requirements

- Mac or PC with CD ROM drive

How to Order

- Item number: D37274*x*

Controller Operation and Programming Interactive Guide CDs

These CDs are great tools for contractors and distributors to use to train new employees and for contractors to provide to homeowners as a value-added leave-behind for their education. The CDs are interactive and walk you through all aspects of controller installation and programming. They also include basic irrigation information, troubleshooting information, and more.

How to Order:

- Ec Controller - D39670 (English)
- ESP-TM Controller - D39704 (English)
- ESP Modular Controller - D39700 (English and Spanish)
- ESP-LX Plus Controller - D39521(English)

● **ESP Modular Controller Operation and Programming Interactive Guide CD**

Controller Solutions Brochures

Available in English and Spanish these brochures are a great tool for troubleshooting common controller issues. They include instructions for 5-minute quick tests that can solve common microprocessor lock-up issues, checking for short circuits, checking backup batteries, and more.

How to Order:

- Controller Solutions Brochure (English) - D37259A
- Controller Solutions Brochure (Spanish) - D37267A

● **Controller Solutions brochure (English)**

ESP Modular Programming Sheets and Wallet Card

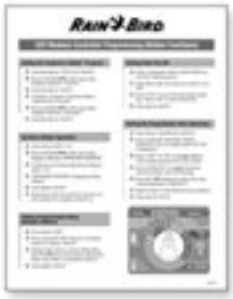
(Basic Programming and Hidden Functions)

These one-page laminated reference sheets are great for contractors new to programming ESP Modulars as well as for contractors that need a quick reminder on how to use all of the hidden functions of the ESP Modular. They are laminated to travel well, and both sheets include information in both English and Spanish. The basic programming sheet includes information such as: setting date, time, watering times, watering cycles, valve run times, and Contractor Default™ program. The Hidden Function sheet includes information on the Contractor Default™ program, Auxiliary Station operation, programmable delay between stations, event day off, and pump/master valve operation.

How to Order:

- ESP Modular Controller Progamming Sheet - D39689
- ESP Modular Controller Programming Sheet (Hidden Functions) - D39703
- ESP Modular Controller Hidden Functions Quick Reference (wallet card) - D39664

● **ESP Modular Controller Progamming Sheet**



● **ESP Modular Controller Programming Sheet (Hidden Functions)**

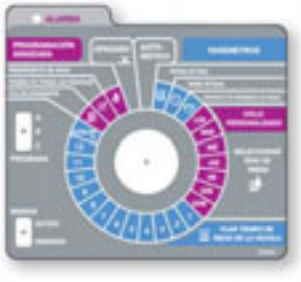
● **ESP Modular Controller Hidden Functions Quick Reference**

ESP Modular Spanish Overlay

This is a great tool for Spanish speaking controller installers. The temporary overlay can be placed over the face of the ESP Modular by removing the dial. Once programming is completed, the overlay is removed, the dial is replaced, and you are ready to go. The temporary Spanish overlays are laminated so they travel well and can be re-used.

How to Order:

- ESP Modular Spanish Overlay - D39686



Reference

Chart after chart, Rain Bird eliminates the guesswork and makes it easier to quickly locate the information you need to expertly and efficiently select the right irrigation components to meet specific application requirements.

Beneficial Advantages of Non-potable Water

Water is our planet's most precious resource, and using non-potable water is an integral part of conserving this limited resource. Recycling water can lower potable water demand, recharge ground water and postpone expensive development of new water sources that include reservoirs and wells. Non-potable water can also save money and contribute aesthetic value through ponds, lagoons and fountains incorporated into the landscape setting.

Rain Bird is committed to The Intelligent Use of Water™ and is dedicated to providing products that further water conservation and its critical role in the environment. For more information about Rain Bird products specially designed for use with non-potable water, please visit www.rainbird.com.

Rain Bird® Products Specifically Designed for use with Non-potable Water

- **Purple Landscape Dripline**

- **1" Control Zone Kit**

- **Purple Valve Box Lids**

- **Purple Covers for Spray Heads:** 1800® Series and UNI-Spray™ Series Purple Plastic Shrub Adapter

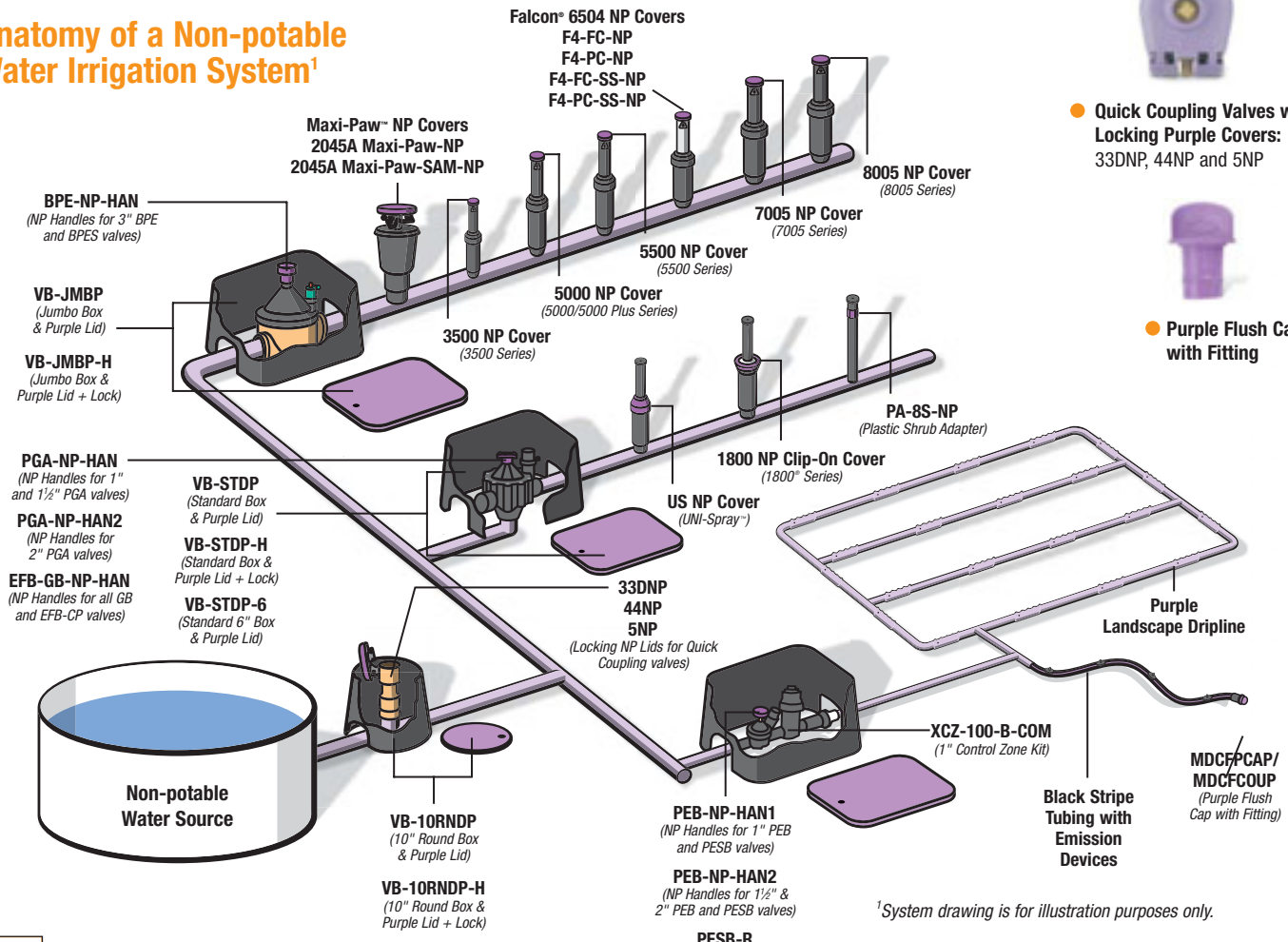
- **Purple Covers for Rotors:** 3500, 5000/5000 Plus, 5500, Falcon® 6504, 7005, 8005 and 2045A Maxi-Paw™

- **PESB-R Series Valves:** Reclaimed water valves available in 1", 1½", 2" sizes

- **Quick Coupling Valves with Locking Purple Covers:** 33DNP, 44NP and 5NP

- **Purple Flush Cap with Fitting**

Anatomy of a Non-potable Water Irrigation System[1]



[1]*System drawing is for illustration purposes only.*

117 Volt Primary Wire Sizing Procedure

1. Determine current requirements of controller unit, master valve, and station valves from electrical current requirement chart.

2. Determine maximum allowable voltage drop.
   a. Determine voltage at power source
   b. Determine voltage desired at controller (limits: 105V minimum and 128V maximum)

3. Calculate equivalent circuit length.

4. Using formula, calculate "F" factor:

$$F = \frac{\text{Allowable Voltage Drop}}{\text{Amps (per unit) x Equiv. Length (in 1000s of feet)}}$$

5. Select power wire size from wire size chart (select wire size with an "F" factor equal to or less than the calculated "F" factor).

Electrical Current Requirements

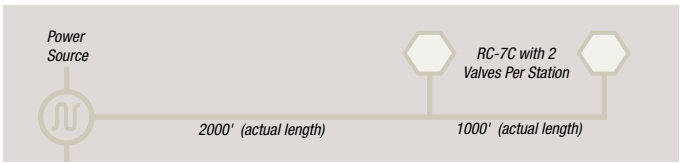
Controllers and Valves

Type of Controller or Valve	117 Volt Primary Current Requirements (Amps)
Controllers Only	**With Power On Not in a Cycle**
RC-Bi	0.13
RC-C	0.13
ESP	0.03
ESP-Si	0.06
E-Class	0.06
Ec	0.07
ESP-LXi+	0.15
ESP-LX+	0.15
ESP-MC	0.18
IM	0.20
Valves Only	**Current Draw When Energized**
Solenoid Valve	0.07

Wire Size

Wire Size	"F" Factor
#18	13.02
#16	8.18
#14	5.16
#12	3.24
#10	2.04
#8	1.28
#6	0.81
#4	0.51

Example



1. Controller Primary Current Requirements (from electrical current requirement chart):

RC-7C controller only	.13
2 solenoid valves (2 x .07)	.14
Total	.27 Amps

2. Maximum allowable voltage drop:
   a. Power source = 119V
   b. Desired voltage at controller (min) = 112V
   Volts drop allowable = 119V - 112V = 7V

3. Equivalent circuit length:

1 (Controller A) x 1000'	= 1000'
2 (Controller A & B) x 2000'	= 4000'
Total	= 5000' = 5.0 (in 1000s of feet)

4.

$$F = \frac{7V}{.27 \text{ Amps} \times 5} = 5.19$$

5. Wire size required: From wire size chart select size #14 wire (chart value = 5.16)

Determining Maximum Number of Valves

Per Station of a Controller

1. From secondary current requirement chart, determine the maximum secondary current (Amps) allowable for the model controller selected.

2. Determine the secondary current requirement of the controller only and the master valve (if a master valve is being used).

3. Calculate the remaining current available for valve operation: maximum secondary current allowable minus the current for controller master valve.

4. Number of valves per station equals:

$$\frac{\text{Remaining Available Current}}{\text{Current Required for 1 Valve}}$$

Secondary Current Requirements for Controllers and Valves

Determining maximum number and combinations of valves per station

Type of Controller or Valve	117 Volt Primary Current Requirements (Amps)		
Controllers Only	**With Power On Not in a Cycle**	**24 Volt Secondary Current Requirement (Amps)**	**Maximum number of Solenoids per Station as the Specification**
RC-Bi	1.25	0.35	2
RC-C	1.50	0.35	2
ESP	1.50	0.03	2
ESP-Si	1.00	0.03	1
E-Class	0.65	0.07	1
Ec	0.65	0.05	1
ESP-LXi+	1.25	0.09	2
ESP-LX+	1.50	0.09	2
ESP-MC	2.50	0.02	2
IM	2.90	0.02	8
Valves			
Solenoid Valve		0.23	

** Including controller, master valve, and maximum number of valves on a station.*

*** Requires .41 Amps in-rush for one valve.*

Example

Determine maximum number of solenoid valves which may be operated per station of an RC-7C controller using a master valve:

1. From secondary current requirement chart, maximum secondary current allowable:

   RC-7C = 1.5 Amps

2. Secondary current requirement for controller and master valve:

RC-7C controller only	.35
Solenoid master valve	.23
Total	.58

3. Remaining current available:

   1.5 - .58 = .9 Amps

4. Maximum number of solenoid valves per station:

$$\frac{.92 \text{ Amps (available)}}{.23 \text{ Amps/Solenoid}} = 4.00$$

Note: Since the resulting value is a maximum, the number of solenoid valves used per station should always be rounded down to the nearest whole number.

PVC Class 160 IPS Plastic Pipe

(1120, 1220) SDR 26 C=150

psi Loss Per 100 Feet of Pipe (psi/100 ft.)

Sizes 1" through 6" Flow 1 through 600 GPM

Size	**1"**		**1 1/4"**		**1 1/2"**		**2"**		**2 1/2"**		**3"**		**4"**		**6"**	
O.D.	**1.315**		**1.660**		**1.900**		**2.375**		**2.875**		**3.500**		**4.500**		**6.625**	
I.D.	**1.195**		**1.532**		**1.754**		**2.193**		**2.655**		**3.230**		**4.154**		**6.115**	
Wall Thk	**0.06**		**0.064**		**0.073**		**0.091**		**0.110**		**0.135**		**0.173**		**0.225**	
Flow GPM	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss
1	0.29	0.02	0.17	0.01	0.13	0.00	0.08	0.00	0.06	0.00	0.04	0.00	0.02	0.00	0.01	0.00
2	0.57	0.06	0.35	0.02	0.27	0.01	0.17	0.00	0.12	0.00	0.08	0.00	0.05	0.00	0.02	0.00
3	0.86	0.14	0.52	0.04	0.40	0.02	0.25	0.01	0.17	0.00	0.12	0.00	0.07	0.00	0.03	0.00
4	1.14	0.23	0.70	0.07	0.53	0.04	0.34	0.01	0.23	0.00	0.16	0.00	0.09	0.00	0.04	0.00
5	1.43	0.35	0.87	0.11	0.66	0.05	0.42	0.02	0.29	0.01	0.20	0.00	0.12	0.00	0.05	0.00
6	1.72	0.49	1.04	0.15	0.80	0.08	0.51	0.03	0.35	0.01	0.23	0.00	0.14	0.00	0.07	0.00
7	2.00	0.66	1.22	0.20	0.93	0.10	0.59	0.03	0.41	0.01	0.27	0.01	0.17	0.00	0.08	0.00
8	2.29	0.84	1.39	0.25	1.06	0.13	0.68	0.04	0.46	0.02	0.31	0.01	0.19	0.00	0.09	0.00
9	2.57	1.04	1.57	0.31	1.20	0.16	0.76	0.05	0.52	0.02	0.35	0.01	0.21	0.00	0.10	0.00
10	2.86	1.27	1.74	0.38	1.33	0.20	0.85	0.07	0.58	0.03	0.39	0.01	0.24	0.00	0.11	0.00
11	3.15	1.51	1.91	0.45	1.46	0.23	0.93	0.08	0.64	0.03	0.43	0.01	0.26	0.00	0.12	0.00
12	3.43	1.78	2.09	0.53	1.59	0.27	1.02	0.09	0.70	0.04	0.47	0.01	0.28	0.00	0.13	0.00
14	4.00	2.36	2.44	0.71	1.86	0.37	1.19	0.12	0.81	0.05	0.55	0.02	0.33	0.01	0.15	0.00
16	4.58	3.02	2.78	0.90	2.12	0.47	1.36	0.16	0.93	0.06	0.63	0.02	0.38	0.01	0.17	0.00
18	5.15	3.76	3.13	1.12	2.39	0.58	1.53	0.20	1.04	0.08	0.70	0.03	0.43	0.01	0.20	0.00
20	5.72	4.57	3.48	1.36	2.66	0.71	1.70	0.24	1.16	0.09	0.78	0.04	0.47	0.01	0.22	0.00
22	6.29	5.45	3.83	1.63	2.92	0.84	1.87	0.28	1.27	0.11	0.86	0.04	0.52	0.01	0.24	0.00
24	6.87	6.40	4.18	1.91	3.19	0.99	2.04	0.33	1.39	0.13	0.94	0.05	0.57	0.01	0.26	0.00
26	7.44	7.43	4.53	2.22	3.45	1.15	2.21	0.39	1.51	0.15	1.02	0.06	0.62	0.02	0.28	0.00
28	8.01	8.52	4.87	2.54	3.72	1.32	2.38	0.44	1.62	0.18	1.10	0.07	0.66	0.02	0.31	0.00
30	8.58	9.68	5.22	2.89	3.98	1.50	2.55	0.50	1.74	0.20	1.17	0.08	0.71	0.02	0.33	0.00
35	10.01	12.87	6.09	3.84	4.65	1.99	2.97	0.67	2.03	0.26	1.37	0.10	0.83	0.03	0.38	0.00
40	11.44	16.48	6.96	4.92	5.31	2.55	3.40	0.86	2.32	0.34	1.57	0.13	0.95	0.04	0.44	0.01
45	12.87	20.49	7.83	6.12	5.98	3.17	3.82	1.07	2.61	0.42	1.76	0.16	1.07	0.05	0.49	0.01
50	14.30	24.90	8.70	7.43	6.64	3.85	4.25	1.30	2.90	0.51	1.96	0.20	1.18	0.06	0.55	0.01
55	15.73	29.70	9.57	8.87	7.30	4.59	4.67	1.55	3.19	0.61	2.15	0.24	1.30	0.07	0.60	0.01
60	17.16	34.89	10.44	10.42	7.97	5.39	5.10	1.82	3.48	0.72	2.35	0.28	1.42	0.08	0.66	0.01
65	18.59	40.45	11.31	12.08	8.63	6.25	5.52	2.11	3.77	0.83	2.55	0.32	1.54	0.09	0.71	0.01
70	20.02	46.40	12.18	13.85	9.29	7.17	5.95	2.42	4.06	0.95	2.74	0.37	1.66	0.11	0.76	0.02
75			13.05	15.74	9.96	8.15	6.37	2.75	4.35	1.08	2.94	0.42	1.78	0.12	0.82	0.02
80			13.92	17.74	10.62	9.18	6.80	3.10	4.64	1.22	3.13	0.47	1.89	0.14	0.87	0.02
85			14.79	19.84	11.29	10.27	7.22	3.46	4.93	1.37	3.33	0.53	2.01	0.15	0.93	0.02
90			15.66	22.05	11.95	11.42	7.64	3.85	5.22	1.52	3.52	0.59	2.13	0.17	0.98	0.03
95			16.53	24.37	12.61	12.62	8.07	4.26	5.51	1.68	3.72	0.65	2.25	0.19	1.04	0.03
100			17.41	26.80	13.28	13.87	8.49	4.68	5.80	1.85	3.92	0.71	2.37	0.21	1.09	0.03
110			19.15	31.97	14.61	16.55	9.34	5.58	6.37	2.20	4.31	0.85	2.60	0.25	1.20	0.04
120					15.93	19.44	10.19	6.56	6.95	2.59	4.70	1.00	2.84	0.29	1.31	0.04
130					17.26	22.54	11.04	7.60	7.53	3.00	5.09	1.16	3.08	0.34	1.42	0.05
140					18.59	25.85	11.89	8.72	8.11	3.44	5.48	1.33	3.31	0.39	1.53	0.06
150					19.92	29.37	12.74	9.91	8.69	3.91	5.87	1.51	3.55	0.44	1.64	0.07
160							13.59	11.16	9.27	4.40	6.26	1.70	3.79	0.50	1.75	0.08
170							14.44	12.49	9.85	4.93	6.66	1.90	4.02	0.56	1.86	0.09
180							15.29	13.88	10.43	5.48	7.05	2.11	4.26	0.62	1.97	0.09
190							16.14	15.34	11.01	6.05	7.44	2.33	4.50	0.69	2.08	0.10
200							16.99	16.87	11.59	6.65	7.83	2.56	4.73	0.75	2.18	0.11
225							19.11	20.98	13.04	8.27	8.81	3.19	5.33	0.94	2.46	0.14
250									14.49	10.06	9.79	3.87	5.92	1.14	2.73	0.17
275									15.94	11.99	10.77	4.62	6.51	1.36	3.00	0.21
300									17.39	14.09	11.75	5.43	7.10	1.60	3.28	0.24
325									18.83	16.34	12.73	6.29	7.69	1.85	3.55	0.28
350											13.70	7.22	8.29	2.12	3.82	0.32
375											14.68	8.20	8.88	2.41	4.10	0.37
400											15.66	9.24	9.47	2.72	4.37	0.41
425											16.64	10.34	10.06	3.04	4.64	0.46
450											17.62	11.49	10.65	3.38	4.92	0.51
475											18.60	12.70	11.24	3.73	5.19	0.57
500											19.58	13.97	11.84	4.11	5.46	0.63
550													13.02	4.90	6.01	0.75
600													14.20	5.75	6.55	0.88

Note: Dark shaded area of chart indicates velocities over 5' per second. Use with caution.

Velocity of flow values are computed from the general equation $V = .408 \frac{Q}{d^2}$

Friction pressure loss values are computed from the equation: $\left[hf = 0.2083 \left(\frac{100}{c}\right) 1.852 \frac{Q^{1.852}}{d^{4.866}}\right]$ x.433 for psi loss per 100' of pipe

PVC Class 200 IPS Plastic Pipe

(1120, 1220) SDR 21 C=150

psi Loss Per 100 Feet of Pipe (psi/100 ft.)

Sizes 3/4" through 6" Flow 1 through 600 GPM

Size	**3/4"**		**1"**		**1 1/4"**		**1 1/2"**		**2"**		**2 1/2"**		**3"**		**4"**		**6"**	
O.D.	**1.050**		**1.315**		**1.660**		**1.900**		**2.375**		**2.875**		**3.500**		**4.500**		**6.625**	
I.D.	**0.930**		**1.189**		**1.502**		**1.720**		**2.149**		**2.601**		**3.166**		**4.072**		**5.993**	
Wall Thk	**0.060**		**0.063**		**0.079**		**0.090**		**0.113**		**0.137**		**0.167**		**0.214**		**0.316**	
Flow GPM	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss
1	0.47	0.06	0.29	0.02	0.18	0.01	0.14	0.00	0.09	0.00	0.06	0.00	0.04	0.00	0.02	0.00	0.01	0.00
2	0.94	0.22	0.58	0.07	0.36	0.02	0.28	0.01	0.18	0.00	0.12	0.00	0.08	0.00	0.05	0.00	0.02	0.00
3	1.42	0.46	0.87	0.14	0.54	0.04	0.41	0.02	0.27	0.01	0.18	0.00	0.12	0.00	0.07	0.00	0.03	0.00
4	1.89	0.79	1.16	0.24	0.72	0.08	0.55	0.04	0.35	0.01	0.24	0.01	0.16	0.00	0.10	0.00	0.05	0.00
5	2.36	1.19	1.44	0.36	0.91	0.12	0.69	0.06	0.44	0.02	0.30	0.01	0.20	0.00	0.12	0.00	0.06	0.00
6	2.83	1.67	1.73	0.50	1.09	0.16	0.83	0.08	0.53	0.03	0.36	0.01	0.24	0.00	0.15	0.00	0.07	0.00
7	3.31	2.22	2.02	0.67	1.27	0.22	0.97	0.11	0.62	0.04	0.42	0.01	0.29	0.01	0.17	0.00	0.08	0.00
8	3.78	2.84	2.31	0.86	1.45	0.28	1.10	0.14	0.71	0.05	0.48	0.02	0.33	0.01	0.20	0.00	0.09	0.00
9	4.25	3.53	2.60	1.07	1.63	0.34	1.24	0.18	0.80	0.06	0.54	0.02	0.37	0.01	0.22	0.00	0.10	0.00
10	4.72	4.29	2.89	1.30	1.81	0.42	1.38	0.22	0.88	0.07	0.60	0.03	0.41	0.01	0.25	0.00	0.11	0.00
11	5.20	5.12	3.18	1.55	1.99	0.50	1.52	0.26	0.97	0.09	0.66	0.03	0.45	0.01	0.27	0.00	0.13	0.00
12	5.67	6.02	3.47	1.82	2.17	0.58	1.66	0.30	1.06	0.10	0.72	0.04	0.49	0.02	0.30	0.00	0.14	0.00
14	6.61	8.00	4.05	2.42	2.54	0.78	1.93	0.40	1.24	0.14	0.85	0.05	0.57	0.02	0.34	0.01	0.16	0.00
16	7.56	10.24	4.62	3.10	2.90	0.99	2.21	0.51	1.42	0.17	0.97	0.07	0.65	0.03	0.39	0.01	0.18	0.00
18	8.50	12.74	5.20	3.85	3.26	1.24	2.49	0.64	1.59	0.22	1.09	0.09	0.73	0.03	0.44	0.01	0.20	0.00
20	9.45	15.48	5.78	4.68	3.62	1.50	2.76	0.78	1.77	0.26	1.21	0.10	0.82	0.04	0.49	0.01	0.23	0.00
22	10.39	18.46	6.36	5.59	3.98	1.79	3.04	0.93	1.95	0.31	1.33	0.12	0.90	0.05	0.54	0.01	0.25	0.00
24	11.34	21.69	6.93	6.56	4.35	2.11	3.31	1.09	2.12	0.37	1.45	0.15	0.98	0.06	0.59	0.02	0.27	0.00
26	12.28	25.15	7.51	7.61	4.71	2.44	3.59	1.26	2.30	0.43	1.57	0.17	1.06	0.06	0.64	0.02	0.30	0.00
28	13.22	28.85	8.09	8.73	5.07	2.80	3.87	1.45	2.48	0.49	1.69	0.19	1.14	0.07	0.69	0.02	0.32	0.00
30	14.17	32.77	8.67	9.92	5.43	3.18	4.14	1.65	2.65	0.56	1.81	0.22	1.22	0.08	0.74	0.02	0.34	0.00
35	16.53	43.59	10.11	13.19	6.34	4.23	4.83	2.19	3.10	0.74	2.11	0.29	1.43	0.11	0.86	0.03	0.40	0.01
40	18.89	55.80	11.56	16.89	7.24	5.42	5.52	2.80	3.54	0.95	2.42	0.37	1.63	0.14	0.99	0.04	0.45	0.01
45			13.00	21.00	8.15	6.74	6.21	3.48	3.98	1.18	2.72	0.47	1.83	0.18	1.11	0.05	0.51	0.01
50			14.45	25.51	9.05	8.18	6.90	4.23	4.42	1.43	3.02	0.57	2.04	0.22	1.23	0.06	0.57	0.01
55			15.89	30.43	9.96	9.76	7.59	5.05	4.86	1.71	3.32	0.67	2.24	0.26	1.35	0.08	0.63	0.01
60			17.34	35.75	10.86	11.47	8.28	5.93	5.31	2.01	3.62	0.79	2.45	0.30	1.48	0.09	0.68	0.01
65			18.78	41.46	11.77	13.30	8.98	6.88	5.75	2.33	3.92	0.92	2.65	0.35	1.60	0.10	0.74	0.02
70					12.68	15.25	9.67	7.89	6.19	2.67	4.23	1.05	2.85	0.41	1.72	0.12	0.80	0.02
75					13.58	17.33	10.36	8.96	6.63	3.03	4.53	1.20	3.06	0.46	1.85	0.14	0.85	0.02
80					14.49	19.53	11.05	10.10	7.08	3.42	4.83	1.35	3.26	0.52	1.97	0.15	0.91	0.02
85					15.39	21.84	11.74	11.30	7.52	3.82	5.13	1.51	3.46	0.58	2.09	0.17	0.97	0.03
90					16.30	24.28	12.43	12.56	7.96	4.25	5.43	1.68	3.67	0.65	2.22	0.19	1.02	0.03
95					17.20	26.83	13.12	13.88	8.40	4.70	5.74	1.86	3.87	0.71	2.34	0.21	1.08	0.03
100					18.11	29.51	13.81	15.26	8.85	5.16	6.04	2.04	4.08	0.78	2.46	0.23	1.14	0.04
110					19.92	35.20	15.19	18.20	9.73	6.16	6.64	2.43	4.48	0.94	2.71	0.27	1.25	0.04
120							16.57	21.38	10.61	7.24	7.25	2.86	4.89	1.10	2.96	0.32	1.36	0.05
130							17.95	24.79	11.50	8.39	7.85	3.31	5.30	1.27	3.20	0.37	1.48	0.06
140							19.33	28.44	12.38	9.62	8.45	3.80	5.71	1.46	3.45	0.43	1.59	0.07
150									13.27	10.93	9.06	4.32	6.11	1.66	3.70	0.49	1.71	0.07
160									14.15	12.32	9.66	4.87	6.52	1.87	3.94	0.55	1.82	0.08
170									15.04	13.78	10.27	5.44	6.93	2.09	4.19	0.61	1.93	0.09
180									15.92	15.32	10.87	6.05	7.34	2.33	4.43	0.68	2.05	0.10
190									16.81	16.93	11.47	6.69	7.74	2.57	4.68	0.76	2.16	0.12
200									17.69	18.62	12.08	7.35	8.15	2.83	4.93	0.83	2.27	0.13
225									19.90	23.15	13.59	9.14	9.17	3.51	5.54	1.03	2.56	0.16
250											15.10	11.11	10.19	4.27	6.16	1.26	2.84	0.19
275											16.61	13.26	11.21	5.09	6.77	1.50	3.13	0.23
300											18.11	15.57	12.23	5.98	7.39	1.76	3.41	0.27
325											19.62	18.06	13.25	6.94	8.01	2.04	3.70	0.31
350													14.26	7.96	8.62	2.34	3.98	0.36
375													15.28	9.04	9.24	2.66	4.27	0.41
400													16.30	10.19	9.85	2.99	4.55	0.46
425													17.32	11.40	10.47	3.35	4.83	0.51
450													18.34	12.67	11.09	3.72	5.12	0.57
475													19.36	14.00	11.70	4.11	5.40	0.63
500															12.32	4.52	5.69	0.69
550															13.55	5.40	6.26	0.82
600															14.78	6.34	6.82	0.97

Note: Dark shaded area of chart indicates velocities over 5' per second. Use with caution.

Velocity of flow values are computed from the general equation $V = .408 \frac{Q}{d}2$

Friction pressure loss values are computed from the equation: $\left[hf = 0.2083 \left(\frac{100}{c}\right) 1.852 \frac{Q\,1.852}{d\,4.866}\right]$ x.433 for psi loss per 100' of pipe

PVC Class 315 IPS Plastic Pipe

(1120, 1220) SDR 13.5 C=150

PVC Class 315 IPS Plastic Pipe

psi Loss Per 100 Feet of Pipe (psi/100 ft.)

Sizes 1/2" through 6" Flow 1 through 600 GPM

Size	**1/2"**		**3/4"**		**1"**		**1 1/4"**		**1 1/2"**		**2"**		**2 1/2"**		**3"**		**4"**		**6"**	
O.D.	**0.840**		**1.050**		**1.315**		**1.660**		**1.900**		**2.375**		**2.875**		**3.500**		**4.500**		**6.625**	
I.D.	**0.716**		**0.894**		**1.121**		**1.414**		**1.618**		**2.023**		**2.449**		**2.982**		**3.834**		**5.643**	
Wall Thk	**0.062**		**0.078**		**0.097**		**0.123**		**0.141**		**0.176**		**0.213**		**0.259**		**0.333**		**0.491**	
Flow GPM	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss
1	0.80	0.22	0.51	0.07	0.33	0.02	0.20	0.01	0.16	0.00	0.10	0.00	0.07	0.00	0.05	0.00	0.03	0.00	0.01	0.00
2	1.59	0.78	1.02	0.26	0.65	0.09	0.41	0.03	0.31	0.01	0.20	0.00	0.14	0.00	0.09	0.00	0.06	0.00	0.03	0.00
3	2.39	1.65	1.53	0.56	0.98	0.19	0.61	0.06	0.47	0.03	0.30	0.01	0.20	0.00	0.14	0.00	0.08	0.00	0.04	0.00
4	3.19	2.81	2.04	0.96	1.30	0.32	0.82	0.10	0.62	0.05	0.40	0.02	0.27	0.01	0.18	0.00	0.11	0.00	0.05	0.00
5	3.98	4.25	2.56	1.44	1.63	0.48	1.02	0.16	0.78	0.08	0.50	0.03	0.34	0.01	0.23	0.00	0.14	0.00	0.06	0.00
6	4.78	5.96	3.07	2.02	1.95	0.67	1.23	0.22	0.94	0.11	0.60	0.04	0.41	0.02	0.28	0.01	0.17	0.00	0.08	0.00
7	5.58	7.92	3.58	2.69	2.28	0.89	1.43	0.29	1.09	0.15	0.70	0.05	0.48	0.02	0.32	0.01	0.19	0.00	0.09	0.00
8	6.37	10.14	4.09	3.44	2.60	1.15	1.63	0.37	1.25	0.19	0.80	0.06	0.54	0.03	0.37	0.01	0.22	0.00	0.10	0.00
9	7.17	12.61	4.60	4.28	2.93	1.42	1.84	0.46	1.40	0.24	0.90	0.08	0.61	0.03	0.41	0.01	0.25	0.00	0.12	0.00
10	7.97	15.33	5.11	5.20	3.25	1.73	2.04	0.56	1.56	0.29	1.00	0.10	0.68	0.04	0.46	0.01	0.28	0.00	0.13	0.00
11	8.77	18.28	5.62	6.21	3.58	2.06	2.25	0.67	1.72	0.35	1.10	0.12	0.75	0.05	0.51	0.02	0.31	0.01	0.14	0.00
12	9.56	21.47	6.13	7.29	3.90	2.42	2.45	0.78	1.87	0.41	1.20	0.14	0.82	0.05	0.55	0.02	0.33	0.01	0.15	0.00
14	11.16	28.56	7.16	9.70	4.55	3.22	2.86	1.04	2.18	0.54	1.40	0.18	0.95	0.07	0.64	0.03	0.39	0.01	0.18	0.00
16	12.75	36.56	8.18	12.41	5.20	4.13	3.27	1.33	2.50	0.69	1.60	0.23	1.09	0.09	0.74	0.04	0.44	0.01	0.21	0.00
18	14.34	45.46	9.20	15.44	5.85	5.13	3.68	1.66	2.81	0.86	1.80	0.29	1.23	0.11	0.83	0.04	0.50	0.01	0.23	0.00
20	15.94	55.25	10.22	18.76	6.50	6.24	4.09	2.02	3.12	1.05	2.00	0.35	1.36	0.14	0.92	0.05	0.56	0.02	0.26	0.00
22	17.53	65.90	11.24	22.37	7.15	7.44	4.49	2.40	3.43	1.25	2.20	0.42	1.50	0.17	1.01	0.06	0.61	0.02	0.28	0.00
24	19.12	77.41	12.27	26.28	7.80	8.74	4.90	2.82	3.74	1.47	2.40	0.49	1.63	0.20	1.10	0.07	0.67	0.02	0.31	0.00
26			13.29	30.48	8.45	10.14	5.31	3.27	4.06	1.70	2.60	0.57	1.77	0.23	1.19	0.09	0.72	0.03	0.33	0.00
28			14.31	34.95	9.10	11.62	5.72	3.76	4.37	1.95	2.79	0.66	1.91	0.26	1.29	0.10	0.78	0.03	0.36	0.00
30			15.33	39.71	9.75	13.21	6.13	4.27	4.68	2.22	2.99	0.75	2.04	0.29	1.38	0.11	0.83	0.03	0.38	0.01
35			17.89	52.82	11.38	17.57	7.15	5.68	5.46	2.95	3.49	0.99	2.38	0.39	1.61	0.15	0.97	0.04	0.45	0.01
40					13.00	22.49	8.17	7.27	6.24	3.77	3.99	1.27	2.72	0.50	1.84	0.19	1.11	0.06	0.51	0.01
45					14.63	27.96	9.19	9.03	7.02	4.69	4.49	1.58	3.06	0.62	2.07	0.24	1.25	0.07	0.58	0.01
50					16.25	33.98	10.22	10.98	7.80	5.70	4.99	1.92	3.41	0.76	2.30	0.29	1.39	0.09	0.64	0.01
55					17.88	40.53	11.24	13.10	8.58	6.80	5.49	2.29	3.75	0.90	2.53	0.35	1.53	0.10	0.71	0.02
60					19.50	47.61	12.26	15.38	9.36	7.99	5.99	2.69	4.09	1.06	2.76	0.41	1.67	0.12	0.77	0.02
65							13.28	17.84	10.14	9.26	6.49	3.12	4.43	1.23	2.99	0.47	1.81	0.14	0.83	0.02
70							14.30	20.46	10.92	10.62	6.99	3.58	4.77	1.41	3.22	0.54	1.95	0.16	0.90	0.02
75							15.32	23.25	11.70	12.07	7.49	4.07	5.11	1.61	3.45	0.62	2.08	0.18	0.96	0.03
80							16.34	26.19	12.48	13.60	7.99	4.59	5.45	1.81	3.68	0.69	2.22	0.20	1.03	0.03
85							17.37	29.30	13.26	15.21	8.48	5.13	5.79	2.02	3.90	0.78	2.36	0.23	1.09	0.03
90							18.39	32.57	14.04	16.91	8.98	5.70	6.13	2.25	4.13	0.86	2.50	0.25	1.15	0.04
95							19.41	36.00	14.82	18.69	9.48	6.30	6.47	2.49	4.36	0.95	2.64	0.28	1.22	0.04
100									15.60	20.55	9.98	6.93	6.81	2.73	4.59	1.05	2.78	0.31	1.28	0.05
110									17.16	24.51	10.98	8.27	7.49	3.26	5.05	1.25	3.06	0.37	1.41	0.06
120									18.72	28.79	11.98	9.71	8.17	3.83	5.51	1.47	3.33	0.43	1.54	0.07
130											12.98	11.26	8.85	4.44	5.97	1.70	3.61	0.50	1.67	0.08
140											13.97	12.91	9.54	5.10	6.43	1.95	3.89	0.58	1.80	0.09
150											14.97	14.67	10.22	5.79	6.89	2.22	4.17	0.65	1.92	0.10
160											15.97	16.53	10.90	6.52	7.35	2.50	4.45	0.74	2.05	0.11
170											16.97	18.49	11.58	7.30	7.81	2.80	4.72	0.82	2.18	0.13
180											17.97	20.56	12.26	8.11	8.27	3.11	5.00	0.92	2.31	0.14
190											18.97	22.72	12.94	8.97	8.73	3.44	5.28	1.01	2.44	0.15
200											19.96	24.98	13.62	9.86	9.19	3.78	5.56	1.11	2.57	0.17
225													15.32	12.26	10.34	4.70	6.25	1.38	2.89	0.21
250													17.03	14.90	11.48	5.71	6.95	1.68	3.21	0.26
275													18.73	17.77	12.63	6.82	7.64	2.01	3.53	0.31
300															13.78	8.01	8.34	2.36	3.85	0.36
325															14.93	9.28	9.03	2.73	4.17	0.42
350															16.08	10.65	9.73	3.14	4.49	0.48
375															17.23	12.10	10.42	3.56	4.81	0.54
400															18.38	13.63	11.12	4.01	5.13	0.61
425															19.52	15.25	11.81	4.49	5.45	0.68
450																	12.51	4.99	5.77	0.76
475																	13.20	5.52	6.09	0.84
500																	13.89	6.07	6.41	0.92
550																	15.28	7.23	7.06	1.10
600																	16.67	8.50	7.70	1.30

Note: Dark shaded area of chart indicates velocities over 5' per second. Use with caution.

Velocity of flow values are computed from the general equation $V = .408 \frac{Q}{d}$-2

Friction pressure loss values are computed from the equation: $\left[hf = 0.2083 \left(\frac{100}{c}\right) 1.852 \frac{Q\,1.852}{d\,4.866}\right]$ x.433 for psi loss per 100' of pipe

PVC Schedule 40 IPS Plastic Pipe

(1120, 1220) C=150

psi Loss Per 100 Feet of Pipe (psi/100 ft.)

Sizes 1/2" through 6" Flow 1 through 600 GPM

Size	1/2"		3/4"		1"		1 1/4"		1 1/2"		2"		2 1/2"		3"		4"		6"	
O.D.	0.840		1.050		1.315		1.660		1.900		2.375		2.875		3.500		4.500		6.625	
I.D.	0.622		0.824		1.049		1.380		1.610		2.067		2.469		3.068		4.026		6.065	
Wall Thk	0.109		0.113		0.133		0.140		0.145		0.154		0.203		0.216		0.237		0.280	
Flow GPM	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss
1	1.06	0.43	0.60	0.11	0.37	0.03	0.21	0.01	0.16	0.00	0.10	0.00	0.07	0.00	0.04	0.00	0.03	0.00	0.01	0.00
2	2.11	1.55	1.20	0.39	0.74	0.12	0.43	0.03	0.32	0.02	0.19	0.00	0.13	0.00	0.09	0.00	0.05	0.00	0.02	0.00
3	3.17	3.28	1.80	0.83	1.11	0.26	0.64	0.07	0.48	0.03	0.29	0.01	0.20	0.00	0.13	0.00	0.08	0.00	0.03	0.00
4	4.22	5.58	2.41	1.42	1.48	0.44	0.86	0.12	0.64	0.06	0.38	0.02	0.26	0.01	0.17	0.00	0.10	0.00	0.04	0.00
5	5.28	8.43	3.01	2.15	1.86	0.66	1.07	0.17	0.80	0.09	0.48	0.02	0.33	0.01	0.22	0.00	0.13	0.00	0.06	0.00
6	6.34	11.81	3.61	3.01	2.23	0.93	1.29	0.24	0.96	0.12	0.57	0.03	0.40	0.01	0.26	0.01	0.15	0.00	0.07	0.00
7	7.39	15.71	4.21	4.00	2.60	1.24	1.50	0.33	1.12	0.16	0.67	0.05	0.46	0.02	0.30	0.01	0.18	0.00	0.08	0.00
8	8.45	20.12	4.81	5.12	2.97	1.58	1.72	0.42	1.28	0.20	0.76	0.06	0.53	0.02	0.35	0.01	0.20	0.00	0.09	0.00
9	9.50	25.01	5.41	6.37	3.34	1.97	1.93	0.52	1.44	0.25	0.86	0.07	0.59	0.03	0.39	0.01	0.23	0.00	0.10	0.00
10	10.56	30.40	6.02	7.74	3.71	2.39	2.15	0.63	1.60	0.31	0.96	0.09	0.66	0.04	0.43	0.01	0.25	0.00	0.11	0.00
11	11.61	36.26	6.62	9.23	4.08	2.85	2.36	0.75	1.76	0.37	1.05	0.11	0.73	0.04	0.48	0.02	0.28	0.00	0.12	0.00
12	12.67	42.59	7.22	10.84	4.45	3.35	2.57	0.88	1.91	0.43	1.15	0.12	0.79	0.05	0.52	0.02	0.30	0.00	0.13	0.00
14	14.78	56.64	8.42	14.42	5.20	4.45	3.00	1.17	2.23	0.57	1.34	0.16	0.92	0.07	0.61	0.02	0.35	0.01	0.16	0.00
16	16.89	72.52	9.63	18.46	5.94	5.70	3.43	1.50	2.55	0.73	1.53	0.21	1.06	0.09	0.69	0.03	0.40	0.01	0.18	0.00
18	19.01	90.17	10.83	22.95	6.68	7.09	3.86	1.87	2.87	0.91	1.72	0.26	1.19	0.11	0.78	0.04	0.45	0.01	0.20	0.00
20	21.12	109.58	12.03	27.89	7.42	8.62	4.29	2.27	3.19	1.10	1.91	0.32	1.32	0.13	0.87	0.05	0.50	0.01	0.22	0.00
22			13.24	33.27	8.17	10.28	4.72	2.71	3.51	1.32	2.10	0.38	1.45	0.15	0.95	0.06	0.55	0.01	0.24	0.00
24			14.44	39.08	8.91	12.07	5.15	3.18	3.83	1.55	2.29	0.45	1.58	0.18	1.04	0.07	0.60	0.02	0.27	0.00
26			15.64	45.32	9.65	14.00	5.58	3.69	4.15	1.79	2.49	0.52	1.71	0.21	1.13	0.08	0.66	0.02	0.29	0.00
28			16.85	51.98	10.39	16.06	6.01	4.23	4.47	2.06	2.68	0.59	1.85	0.24	1.22	0.09	0.71	0.02	0.31	0.00
30			18.05	59.05	11.14	18.24	6.44	4.80	4.79	2.34	2.87	0.67	1.98	0.27	1.30	0.10	0.76	0.03	0.33	0.00
35					12.99	24.26	7.51	6.39	5.58	3.11	3.35	0.89	2.31	0.36	1.52	0.13	0.88	0.03	0.39	0.00
40					14.85	31.06	8.58	8.18	6.38	3.98	3.82	1.15	2.64	0.46	1.74	0.17	1.01	0.04	0.44	0.01
45					16.71	38.62	9.65	10.17	7.18	4.95	4.30	1.42	2.97	0.58	1.95	0.21	1.13	0.06	0.50	0.01
50					18.56	46.94	10.73	12.36	7.98	6.02	4.78	1.73	3.30	0.70	2.17	0.25	1.26	0.07	0.56	0.01
55							11.80	14.74	8.78	7.18	5.26	2.06	3.63	0.84	2.39	0.30	1.39	0.08	0.61	0.01
60							12.87	17.32	9.57	8.43	5.74	2.43	3.96	0.98	2.60	0.36	1.51	0.09	0.67	0.01
65							13.94	20.08	10.37	9.78	6.21	2.81	4.29	1.14	2.82	0.41	1.64	0.11	0.72	0.01
70							15.02	23.03	11.17	11.21	6.69	3.23	4.62	1.31	3.04	0.47	1.76	0.13	0.78	0.02
75							16.09	26.17	11.97	12.74	7.17	3.66	4.95	1.48	3.25	0.54	1.89	0.14	0.83	0.02
80							17.16	29.49	12.77	14.36	7.65	4.13	5.28	1.67	3.47	0.60	2.02	0.16	0.89	0.02
85							18.23	32.99	13.56	16.06	8.13	4.62	5.60	1.87	3.69	0.68	2.14	0.18	0.94	0.02
90							19.31	36.67	14.36	17.85	8.61	5.14	5.93	2.08	3.91	0.75	2.27	0.20	1.00	0.03
95									15.16	19.73	9.08	5.68	6.26	2.30	4.12	0.83	2.39	0.22	1.06	0.03
100									15.96	21.69	9.56	6.24	6.59	2.53	4.34	0.91	2.52	0.24	1.11	0.03
110									17.55	25.88	10.52	7.44	7.25	3.01	4.77	1.09	2.77	0.29	1.22	0.04
120									19.15	30.40	11.47	8.74	7.91	3.54	5.21	1.28	3.02	0.34	1.33	0.05
130											12.43	10.14	8.57	4.11	5.64	1.48	3.28	0.40	1.44	0.05
140											13.39	11.63	9.23	4.71	6.08	1.70	3.53	0.45	1.55	0.06
150											14.34	13.21	9.89	5.35	6.51	1.93	3.78	0.52	1.67	0.07
160											15.30	14.89	10.55	6.03	6.94	2.18	4.03	0.58	1.78	0.08
170											16.25	16.65	11.21	6.74	7.38	2.44	4.28	0.65	1.89	0.09
180											17.21	18.51	11.87	7.50	7.81	2.71	4.54	0.72	2.00	0.10
190											18.17	20.46	12.53	8.29	8.25	2.99	4.79	0.80	2.11	0.11
200											19.12	22.50	13.19	9.11	8.68	3.29	5.04	0.88	2.22	0.12
225													14.84	11.33	9.76	4.09	5.67	1.09	2.50	0.15
250													16.48	13.77	10.85	4.98	6.30	1.33	2.78	0.18
275													18.13	16.42	11.93	5.94	6.93	1.58	3.05	0.22
300															13.02	6.97	7.56	1.86	3.33	0.25
325															14.10	8.09	8.19	2.16	3.61	0.29
350															15.19	9.27	8.82	2.47	3.89	0.34
375															16.27	10.54	9.45	2.81	4.16	0.38
400															17.36	11.87	10.08	3.16	4.44	0.43
425															18.44	13.28	10.71	3.54	4.72	0.48
450															19.53	14.76	11.34	3.93	5.00	0.54
475																	11.97	4.35	5.28	0.59
500																	12.60	4.78	5.55	0.65
550																	13.86	5.70	6.11	0.78
600																	15.12	6.70	6.66	0.91

Note: Dark shaded area of chart indicates velocities over 5' per second. Use with caution.
Velocity of flow values are computed from the general equation $V = .408 \frac{Q}{d^2}$
Friction pressure loss values are computed from the equation: $\left[hf = 0.2083 \left(\frac{100}{c}\right) 1.852 \frac{Q^{1.852}}{d^{4.866}}\right]$ x.433 for psi loss per 100' of pipe

PVC Schedule 80 IPS Plastic Pipe

(1120, 1220) C=150

psi Loss Per 100 Feet of Pipe (psi/100 ft.)

Sizes 1/2" through 6" Flow 1 through 600 GPM

Size	**1/2"**		**3/4"**		**1"**		**1 1/4"**		**1 1/2"**		**2"**		**2 1/2"**		**3"**		**4"**		**6"**	
O.D.	**0.840**		**1.050**		**1.315**		**1.660**		**1.900**		**2.375**		**2.875**		**3.500**		**4.500**		**6.625**	
I.D.	**0.546**		**0.742**		**0.957**		**1.278**		**1.500**		**1.939**		**2.323**		**2.900**		**3.826**		**5.761**	
Wall Thk	**0.147**		**0.154**		**0.179**		**0.191**		**0.200**		**0.218**		**0.276**		**0.300**		**0.337**		**0.432**	
Flow GPM	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss
1	1.37	0.81	0.74	0.18	0.45	0.05	0.25	0.01	0.18	0.01	0.11	0.00	0.08	0.00	0.05	0.00	0.03	0.00	0.01	0.00
2	2.74	2.92	1.48	0.66	0.89	0.19	0.50	0.05	0.36	0.02	0.22	0.01	0.15	0.00	0.10	0.00	0.06	0.00	0.02	0.00
3	4.11	6.18	2.23	1.39	1.34	0.40	0.75	0.10	0.54	0.05	0.33	0.01	0.23	0.01	0.15	0.00	0.08	0.00	0.04	0.00
4	5.48	10.52	2.97	2.37	1.78	0.69	1.00	0.17	0.73	0.08	0.43	0.02	0.30	0.01	0.19	0.00	0.11	0.00	0.05	0.00
5	6.85	15.90	3.71	3.57	2.23	1.04	1.25	0.25	0.91	0.12	0.54	0.03	0.38	0.01	0.24	0.00	0.14	0.00	0.06	0.00
6	8.22	22.27	4.45	5.01	2.68	1.45	1.50	0.36	1.09	0.16	0.65	0.05	0.45	0.02	0.29	0.01	0.17	0.00	0.07	0.00
7	9.59	29.62	5.19	6.66	3.12	1.93	1.75	0.47	1.27	0.22	0.76	0.06	0.53	0.03	0.34	0.01	0.20	0.00	0.09	0.00
8	10.96	37.92	5.94	8.53	3.57	2.47	2.00	0.61	1.45	0.28	0.87	0.08	0.61	0.03	0.39	0.01	0.22	0.00	0.10	0.00
9	12.33	47.16	6.68	10.60	4.01	3.07	2.25	0.75	1.63	0.35	0.98	0.10	0.68	0.04	0.44	0.01	0.25	0.00	0.11	0.00
10	13.70	57.30	7.42	12.88	4.46	3.74	2.50	0.91	1.82	0.42	1.09	0.12	0.76	0.05	0.49	0.02	0.28	0.00	0.12	0.00
11	15.07	68.35	8.16	15.37	4.91	4.46	2.75	1.09	2.00	0.50	1.20	0.14	0.83	0.06	0.53	0.02	0.31	0.01	0.14	0.00
12	16.44	80.29	8.90	18.05	5.35	5.23	3.00	1.28	2.18	0.59	1.30	0.17	0.91	0.07	0.58	0.02	0.33	0.01	0.15	0.00
14			10.39	24.01	6.24	6.96	3.50	1.70	2.54	0.78	1.52	0.22	1.06	0.09	0.68	0.03	0.39	0.01	0.17	0.00
16			11.87	30.74	7.14	8.91	4.00	2.18	2.90	1.00	1.74	0.29	1.21	0.12	0.78	0.04	0.45	0.01	0.20	0.00
18			13.36	38.22	8.03	11.08	4.50	2.71	3.27	1.24	1.96	0.36	1.36	0.15	0.87	0.05	0.50	0.01	0.22	0.00
20			14.84	46.45	8.92	13.47	5.00	3.30	3.63	1.51	2.17	0.43	1.51	0.18	0.97	0.06	0.56	0.02	0.25	0.00
22			16.32	55.40	9.81	16.06	5.50	3.93	3.99	1.80	2.39	0.52	1.67	0.21	1.07	0.07	0.61	0.02	0.27	0.00
24			17.81	65.08	10.70	18.87	6.00	4.62	4.36	2.12	2.61	0.61	1.82	0.25	1.17	0.09	0.67	0.02	0.30	0.00
26			19.29	75.47	11.60	21.88	6.50	5.36	4.72	2.46	2.82	0.70	1.97	0.29	1.26	0.10	0.73	0.03	0.32	0.00
28					12.49	25.10	7.00	6.14	5.08	2.82	3.04	0.81	2.12	0.34	1.36	0.11	0.78	0.03	0.34	0.00
30					13.38	28.51	7.50	6.98	5.45	3.20	3.26	0.92	2.27	0.38	1.46	0.13	0.84	0.03	0.37	0.00
35					15.61	37.92	8.75	9.28	6.35	4.26	3.80	1.22	2.65	0.51	1.70	0.17	0.98	0.04	0.43	0.01
40					17.84	48.55	10.00	11.88	7.26	5.45	4.35	1.56	3.03	0.65	1.94	0.22	1.12	0.06	0.49	0.01
45							11.25	14.78	8.17	6.78	4.89	1.94	3.41	0.81	2.19	0.27	1.26	0.07	0.55	0.01
50							12.51	17.96	9.08	8.24	5.43	2.36	3.78	0.98	2.43	0.33	1.40	0.09	0.62	0.01
55							13.76	21.42	9.99	9.83	5.98	2.82	4.16	1.17	2.67	0.40	1.53	0.10	0.68	0.01
60							15.01	25.16	10.89	11.54	6.52	3.31	4.54	1.37	2.91	0.47	1.67	0.12	0.74	0.02
65							16.26	29.18	11.80	13.38	7.06	3.84	4.92	1.59	3.16	0.54	1.81	0.14	0.80	0.02
70							17.51	33.47	12.71	15.35	7.61	4.40	5.30	1.83	3.40	0.62	1.95	0.16	0.86	0.02
75							18.76	38.02	13.62	17.44	8.15	5.00	5.68	2.08	3.64	0.71	2.09	0.18	0.92	0.03
80							20.01	42.84	14.52	19.65	8.69	5.64	6.06	2.34	3.89	0.80	2.23	0.21	0.98	0.03
85									15.43	21.99	9.24	6.31	6.43	2.62	4.13	0.89	2.37	0.23	1.05	0.03
90									16.34	24.44	9.78	7.01	6.81	2.91	4.37	0.99	2.51	0.26	1.11	0.04
95									17.25	27.01	10.32	7.75	7.19	3.22	4.61	1.09	2.65	0.28	1.17	0.04
100									18.16	29.70	10.87	8.52	7.57	3.54	4.86	1.20	2.79	0.31	1.23	0.04
110									19.97	35.42	11.95	10.16	8.33	4.22	5.34	1.43	3.07	0.37	1.35	0.05
120											13.04	11.93	9.08	4.95	5.83	1.68	3.35	0.44	1.48	0.06
130											14.12	13.84	9.84	5.74	6.31	1.95	3.63	0.51	1.60	0.07
140											15.21	15.87	10.60	6.59	6.80	2.24	3.91	0.58	1.72	0.08
150											16.30	18.03	11.35	7.49	7.29	2.54	4.19	0.66	1.85	0.09
160											17.38	20.32	12.11	8.44	7.77	2.87	4.47	0.74	1.97	0.10
170											18.47	22.73	12.87	9.44	8.26	3.21	4.74	0.83	2.09	0.11
180											19.56	25.27	13.63	10.49	8.74	3.56	5.02	0.93	2.22	0.13
190													14.38	11.59	9.23	3.94	5.30	1.02	2.34	0.14
200													15.14	12.75	9.71	4.33	5.58	1.12	2.46	0.15
225													17.03	15.85	10.93	5.39	6.28	1.40	2.77	0.19
250													18.92	19.26	12.14	6.54	6.98	1.70	3.08	0.23
275													20.82	22.97	13.36	7.81	7.67	2.03	3.38	0.28
300															14.57	9.17	8.37	2.38	3.69	0.33
325															15.79	10.63	9.07	2.76	4.00	0.38
350															17.00	12.20	9.77	3.17	4.31	0.43
375															18.21	13.86	10.46	3.60	4.62	0.49
400															19.43	15.61	11.16	4.05	4.92	0.55
425																	11.86	4.54	5.23	0.62
450																	12.56	5.04	5.54	0.69
475																	13.26	5.57	5.85	0.76
500																	13.95	6.13	6.15	0.84
550																	15.35	7.31	6.77	1.00
600																	16.74	8.58	7.38	1.17

Note: Dark shaded area of chart indicates velocities over 5' per second. Use with caution.

Velocity of flow values are computed from the general equation $V = .408 \frac{Q}{d^2}$

Friction pressure loss values are computed from the equation: $\left[hf = 0.2083 \left(\frac{100}{c}\right) 1.852 \frac{Q^{1.852}}{d^{4.866}}\right]$ x.433 for psi loss per 100' of pipe

Polyethylene (PE) SDR Pressure Rated Tube

(2306, 3206, 3306) SDR 7, 9, 11.5, 15 C=150

psi Loss Per 100 Feet of Pipe (psi/100 ft.)

Sizes 1/2" through 6" Flow 1 through 600 GPM

Size	1/2"		3/4"		1"		1 1/4"		1 1/2"		2"		2 1/2"		3"		4"		6"	
I.D.	0.622		0.824		1.049		1.380		1.610		2.067		2.469		3.068		4.026		6.065	
Flow GPM	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss
1	1.06	0.43	0.60	0.11	0.37	0.03	0.21	0.01	0.16	0.00	0.10	0.00	0.07	0.00	0.04	0.00	0.03	0.00	0.01	0.00
2	2.11	1.55	1.20	0.39	0.74	0.12	0.43	0.03	0.32	0.02	0.19	0.00	0.13	0.00	0.09	0.00	0.05	0.00	0.02	0.00
3	3.17	3.28	1.80	0.83	1.11	0.26	0.64	0.07	0.47	0.03	0.29	0.01	0.20	0.00	0.13	0.00	0.08	0.00	0.03	0.00
4	4.22	5.58	2.41	1.42	1.48	0.44	0.86	0.12	0.63	0.05	0.38	0.02	0.27	0.01	0.17	0.00	0.10	0.00	0.04	0.00
5	5.28	8.43	3.01	2.15	1.86	0.66	1.07	0.17	0.79	0.08	0.48	0.02	0.34	0.01	0.22	0.00	0.13	0.00	0.06	0.00
6	6.34	11.81	3.61	3.01	2.23	0.93	1.29	0.24	0.95	0.12	0.57	0.03	0.40	0.01	0.26	0.01	0.15	0.00	0.07	0.00
7	7.39	15.71	4.21	4.00	2.60	1.24	1.50	0.33	1.10	0.15	0.67	0.05	0.47	0.02	0.30	0.01	0.18	0.00	0.08	0.00
8	8.45	20.12	4.81	5.12	2.97	1.58	1.72	0.42	1.26	0.20	0.76	0.06	0.54	0.02	0.35	0.01	0.20	0.00	0.09	0.00
9	9.50	25.01	5.41	6.37	3.34	1.97	1.93	0.52	1.42	0.24	0.86	0.07	0.60	0.03	0.39	0.01	0.23	0.00	0.10	0.00
10	10.56	30.40	6.02	7.74	3.71	2.39	2.15	0.63	1.58	0.30	0.96	0.09	0.67	0.04	0.43	0.01	0.25	0.00	0.11	0.00
11	11.61	36.26	6.62	9.23	4.08	2.85	2.36	0.75	1.73	0.35	1.05	0.11	0.74	0.04	0.48	0.02	0.28	0.00	0.12	0.00
12	12.67	42.59	7.22	10.84	4.45	3.35	2.57	0.88	1.89	0.42	1.15	0.12	0.80	0.05	0.52	0.02	0.30	0.00	0.13	0.00
14	14.78	56.64	8.42	14.42	5.20	4.45	3.00	1.17	2.21	0.55	1.34	0.16	0.94	0.07	0.61	0.02	0.35	0.01	0.16	0.00
16	16.89	72.52	9.63	18.46	5.94	5.70	3.43	1.50	2.52	0.71	1.53	0.21	1.07	0.09	0.69	0.03	0.40	0.01	0.18	0.00
18	19.01	90.17	10.83	22.95	6.68	7.09	3.86	1.87	2.84	0.88	1.72	0.26	1.21	0.11	0.78	0.04	0.45	0.01	0.20	0.00
20			12.03	27.89	7.42	8.62	4.29	2.27	3.15	1.07	1.91	0.32	1.34	0.13	0.87	0.05	0.50	0.01	0.22	0.00
22			13.24	33.27	8.17	10.28	4.72	2.71	3.47	1.28	2.10	0.38	1.47	0.16	0.95	0.06	0.55	0.01	0.24	0.00
24			14.44	39.08	8.91	12.07	5.15	3.18	3.78	1.50	2.29	0.45	1.61	0.19	1.04	0.07	0.60	0.02	0.27	0.00
26			15.64	45.32	9.65	14.00	5.58	3.69	4.10	1.74	2.49	0.52	1.74	0.22	1.13	0.08	0.66	0.02	0.29	0.00
28			16.85	51.98	10.39	16.06	6.01	4.23	4.41	2.00	2.68	0.59	1.88	0.25	1.22	0.09	0.71	0.02	0.31	0.00
30			18.05	59.05	11.14	18.24	6.44	4.80	4.73	2.27	2.87	0.67	2.01	0.28	1.30	0.10	0.76	0.03	0.33	0.00
35					12.99	24.26	7.51	6.39	5.52	3.02	3.35	0.89	2.35	0.38	1.52	0.13	0.88	0.03	0.39	0.00
40					14.85	31.06	8.58	8.18	6.30	3.86	3.82	1.15	2.68	0.48	1.74	0.17	1.01	0.04	0.44	0.01
45					16.71	38.62	9.65	10.17	7.09	4.80	4.30	1.42	3.02	0.60	1.95	0.21	1.13	0.06	0.50	0.01
50					18.56	46.94	10.73	12.36	7.88	5.84	4.78	1.73	3.35	0.73	2.17	0.25	1.26	0.07	0.56	0.01
55							11.80	14.74	8.67	6.96	5.26	2.06	3.69	0.87	2.39	0.30	1.39	0.08	0.61	0.01
60							12.87	17.32	9.46	8.18	5.74	2.43	4.02	1.02	2.60	0.36	1.51	0.09	0.67	0.01
65							13.94	20.08	10.24	9.49	6.21	2.81	4.36	1.18	2.82	0.41	1.64	0.11	0.72	0.01
70							15.02	23.03	11.03	10.88	6.69	3.23	4.69	1.36	3.04	0.47	1.76	0.13	0.78	0.02
75							16.09	26.17	11.82	12.36	7.17	3.66	5.03	1.54	3.25	0.54	1.89	0.14	0.83	0.02
80							17.16	29.49	12.61	13.93	7.65	4.13	5.36	1.74	3.47	0.60	2.02	0.16	0.89	0.02
85							18.23	32.99	13.40	15.58	8.13	4.62	5.70	1.95	3.69	0.68	2.14	0.18	0.94	0.02
90							19.31	36.67	14.18	17.32	8.61	5.14	6.03	2.16	3.91	0.75	2.27	0.20	1.00	0.03
95									14.97	19.14	9.08	5.68	6.37	2.39	4.12	0.83	2.39	0.22	1.06	0.03
100									15.76	21.05	9.56	6.24	6.70	2.63	4.34	0.91	2.52	0.24	1.11	0.03
110									17.34	25.11	10.52	7.44	7.37	3.14	4.77	1.09	2.77	0.29	1.22	0.04
120									18.91	29.49	11.47	8.74	8.04	3.68	5.21	1.28	3.02	0.34	1.33	0.05
130											12.43	10.14	8.71	4.27	5.64	1.48	3.28	0.40	1.44	0.05
140											13.39	11.63	9.38	4.90	6.08	1.70	3.53	0.45	1.55	0.06
150											14.34	13.21	10.05	5.56	6.51	1.93	3.78	0.52	1.67	0.07
160											15.30	14.89	10.72	6.27	6.94	2.18	4.03	0.58	1.78	0.08
170											16.25	16.65	11.39	7.01	7.38	2.44	4.28	0.65	1.89	0.09
180											17.21	18.51	12.06	7.80	7.81	2.71	4.54	0.72	2.00	0.10
190											18.17	20.46	12.73	8.62	8.25	2.99	4.79	0.80	2.11	0.11
200											19.12	22.50	13.40	9.48	8.68	3.29	5.04	0.88	2.22	0.12
225													15.08	11.78	9.76	4.09	5.67	1.09	2.50	0.15
250													16.75	14.32	10.85	4.98	6.30	1.33	2.78	0.18
275													18.43	17.08	11.93	5.94	6.93	1.58	3.05	0.22
300															13.02	6.97	7.56	1.86	3.33	0.25
325															14.10	8.09	8.19	2.16	3.61	0.29
350															15.19	9.27	8.82	2.47	3.89	0.34
375															16.27	10.54	9.45	2.81	4.16	0.38
400															17.36	11.87	10.08	3.16	4.44	0.43
425															18.44	13.28	10.71	3.54	4.72	0.48
450															19.53	14.76	11.34	3.93	5.00	0.54
475																	11.97	4.35	5.28	0.59
500																	12.60	4.78	5.55	0.65
550																	13.86	5.70	6.11	0.78
600																	15.12	6.70	6.66	0.91

Note: Dark shaded area of chart indicates velocities over 5' per second. Use with caution.

Velocity of flow values are computed from the general equation $V = .408 \frac{Q}{d^2}$

Friction pressure loss values are computed from the equation: $\left[hf = 0.2083 \left(\frac{100}{c}\right) 1.852 \frac{Q^{1.852}}{d^{4.866}}\right]$ x.433 for psi loss per 100' of pipe

Schedule 40 Standard Steel Pipe

psi Loss Per 100 Feet of Pipe (psi/100 ft.)

Sizes 1/2" through 6" Flow 1 through 600 GPM

Size	**1/2"**		**3/4"**		**1"**		**1 1/4"**		**1 1/2"**		**2"**		**2 1/2"**		**3"**		**4"**		**6"**	
O.D.	**0.840**		**1.050**		**1.315**		**1.660**		**1.900**		**2.375**		**2.875**		**3.500**		**4.500**		**6.625**	
I.D.	**0.622**		**0.824**		**1.049**		**1.380**		**1.610**		**2.067**		**2.469**		**3.068**		**4.026**		**6.065**	
Wall Thk	**0.109**		**0.113**		**0.133**		**0.140**		**0.145**		**0.154**		**0.203**		**0.216**		**0.237**		**0.280**	
Flow GPM	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss
1	1.06	0.91	0.60	0.23	0.37	0.07	0.21	0.02	0.16	0.01	0.10	0.00	0.07	0.00	0.04	0.00	0.03	0.00	0.02	0.00
2	2.11	3.28	1.20	0.83	0.74	0.26	0.43	0.07	0.32	0.03	0.19	0.01	0.13	0.00	0.09	0.00	0.05	0.00	0.03	0.00
3	3.17	6.94	1.80	1.77	1.11	0.55	0.64	0.14	0.48	0.07	0.29	0.02	0.20	0.01	0.13	0.00	0.08	0.00	0.05	0.00
4	4.22	11.81	2.41	3.01	1.48	0.93	0.86	0.24	0.64	0.12	0.38	0.03	0.26	0.01	0.17	0.01	0.10	0.00	0.06	0.00
5	5.28	17.85	3.01	4.54	1.86	1.40	1.07	0.37	0.80	0.18	0.48	0.05	0.33	0.02	0.22	0.01	0.13	0.00	0.08	0.01
6	6.34	25.01	3.61	6.37	2.23	1.97	1.29	0.52	0.96	0.25	0.57	0.07	0.40	0.03	0.26	0.01	0.15	0.00	0.10	0.01
7	7.39	33.27	4.21	8.47	2.60	2.62	1.50	0.69	1.12	0.34	0.67	0.10	0.46	0.04	0.30	0.01	0.18	0.00	0.11	0.02
8	8.45	42.59	4.81	10.84	2.97	3.35	1.72	0.88	1.28	0.43	0.76	0.12	0.53	0.05	0.35	0.02	0.20	0.00	0.13	0.04
9	9.50	52.96	5.41	13.48	3.34	4.16	1.93	1.10	1.44	0.53	0.86	0.15	0.59	0.06	0.39	0.02	0.23	0.01	0.14	0.05
10	10.56	64.35	6.02	16.38	3.71	5.06	2.15	1.33	1.60	0.65	0.96	0.19	0.66	0.08	0.43	0.03	0.25	0.01	0.16	0.08
11	11.61	76.76	6.62	19.54	4.08	6.04	2.36	1.59	1.76	0.77	1.05	0.22	0.73	0.09	0.48	0.03	0.28	0.01	0.18	0.11
12	12.67	90.17	7.22	22.95	4.45	7.09	2.57	1.87	1.91	0.91	1.15	0.26	0.79	0.11	0.52	0.04	0.30	0.01	0.19	0.14
14	14.78	119.93	8.42	30.53	5.20	9.43	3.00	2.48	2.23	1.21	1.34	0.35	0.92	0.14	0.61	0.05	0.35	0.01	0.22	0.24
16	16.89	153.53	9.63	39.08	5.94	12.07	3.43	3.18	2.55	1.55	1.53	0.45	1.06	0.18	0.69	0.07	0.40	0.02	0.26	0.38
18	19.01	190.91	10.83	48.59	6.68	15.01	3.86	3.95	2.87	1.92	1.72	0.55	1.19	0.22	0.78	0.08	0.45	0.02	0.29	0.57
20			12.03	59.05	7.42	18.24	4.29	4.80	3.19	2.34	1.91	0.67	1.32	0.27	0.87	0.10	0.50	0.03	0.32	0.00
22			13.24	70.44	8.17	21.76	4.72	5.73	3.51	2.79	2.10	0.80	1.45	0.33	0.95	0.12	0.55	0.03	0.35	0.00
24			14.44	82.74	8.91	25.56	5.15	6.73	3.83	3.28	2.29	0.94	1.58	0.38	1.04	0.14	0.60	0.04	0.38	0.00
26			15.64	95.94	9.65	29.64	5.58	7.81	4.15	3.80	2.49	1.09	1.71	0.44	1.13	0.16	0.66	0.04	0.42	0.00
28			16.85	110.04	10.39	34.00	6.01	8.95	4.47	4.36	2.68	1.25	1.85	0.51	1.22	0.18	0.71	0.05	0.45	0.00
30			18.05	125.02	11.14	38.62	6.44	10.17	4.79	4.95	2.87	1.42	1.98	0.58	1.30	0.21	0.76	0.06	0.48	0.00
35					12.99	51.37	7.51	13.53	5.58	6.59	3.35	1.89	2.31	0.77	1.52	0.28	0.88	0.07	0.56	0.00
40					14.85	65.76	8.58	17.32	6.38	8.43	3.82	2.43	2.64	0.98	1.74	0.36	1.01	0.09	0.64	0.00
45					16.71	81.78	9.65	21.53	7.18	10.48	4.30	3.02	2.97	1.22	1.95	0.44	1.13	0.12	0.72	0.00
50					18.56	99.37	10.73	26.17	7.98	12.74	4.78	3.66	3.30	1.48	2.17	0.54	1.26	0.14	0.80	0.00
55							11.80	31.21	8.78	15.20	5.26	4.37	3.63	1.77	2.39	0.64	1.39	0.17	0.88	0.00
60							12.87	36.67	9.57	17.85	5.74	5.14	3.96	2.08	2.60	0.75	1.51	0.20	0.96	0.00
65							13.94	42.52	10.37	20.70	6.21	5.95	4.29	2.41	2.82	0.87	1.64	0.23	1.04	0.00
70							15.02	48.77	11.17	23.74	6.69	6.83	4.62	2.77	3.04	1.00	1.76	0.27	1.12	0.00
75							16.09	55.40	11.97	26.98	7.17	7.76	4.95	3.14	3.25	1.14	1.89	0.30	1.20	0.00
80							17.16	62.43	12.77	30.40	7.65	8.74	5.28	3.54	3.47	1.28	2.02	0.34	1.28	0.00
85							18.23	69.84	13.56	34.01	8.13	9.78	5.60	3.96	3.69	1.43	2.14	0.38	1.36	0.00
90							19.31	77.63	14.36	37.80	8.61	10.87	5.93	4.40	3.91	1.59	2.27	0.42	1.44	0.00
95									15.16	41.77	9.08	12.02	6.26	4.87	4.12	1.76	2.39	0.47	1.52	0.00
100									15.96	45.93	9.56	13.21	6.59	5.35	4.34	1.93	2.52	0.52	1.60	0.00
110									17.55	54.79	10.52	15.76	7.25	6.38	4.77	2.31	2.77	0.61	1.76	0.00
120									19.15	64.36	11.47	18.51	7.91	7.50	5.21	2.71	3.02	0.72	1.92	0.00
130											12.43	21.47	8.57	8.69	5.64	3.14	3.28	0.84	2.08	0.00
140											13.39	24.62	9.23	9.97	6.08	3.60	3.53	0.96	2.25	0.00
150											14.34	27.97	9.89	11.33	6.51	4.09	3.78	1.09	2.41	0.00
160											15.30	31.52	10.55	12.77	6.94	4.61	4.03	1.23	2.57	0.00
170											16.25	35.26	11.21	14.28	7.38	5.16	4.28	1.38	2.73	0.00
180											17.21	39.19	11.87	15.87	7.81	5.74	4.54	1.53	2.89	0.00
190											18.17	43.32	12.53	17.54	8.25	6.34	4.79	1.69	3.05	0.00
200											19.12	47.63	13.19	19.29	8.68	6.97	5.04	1.86	3.21	0.00
225													14.84	23.99	9.76	8.67	5.67	2.31	3.61	0.00
250													16.48	29.15	10.85	10.54	6.30	2.81	4.01	0.00
275													18.13	34.77	11.93	12.57	6.93	3.35	4.41	0.00
300															13.02	14.76	7.56	3.93	4.81	0.00
325															14.10	17.12	8.19	4.56	5.21	0.00
350															15.19	19.63	8.82	5.23	5.61	0.00
375															16.27	22.31	9.45	5.95	6.01	0.00
400															17.36	25.14	10.08	6.70	6.41	0.00
425															18.44	28.12	10.71	7.49	6.82	0.00
450															19.53	31.25	11.34	8.33	7.22	0.00
475																	11.97	9.21	7.62	0.00
500																	12.60	10.12	8.02	0.00
550																	13.86	12.08	8.82	0.00
600																	15.12	14.19	9.62	0.00

Note: Dark shaded area of chart indicates velocities over 5' per second. Use with caution.

Velocity of flow values are computed from the general equation $V = .408 \frac{Q}{d^2}$

Friction pressure loss values are computed from the equation: $\left[hf = 0.2083 \left(\frac{100}{c}\right) 1.852 \frac{Q^{1.852}}{d^{4.866}}\right]$ x.433 for psi loss per 100' of pipe

Type K Copper Water Tube

C=140

psi Loss Per 100 Feet of Tube (psi/100 ft.)

Sizes 1/2" through 3" Flow 1 through 600 GPM

Size	**1/2"**		**5/8"**		**3/4"**		**1 "**		**1 1/4"**		**1 1/2"**		**2 "**		**2 1/2"**		**3"**	
O.D.	**0.625**		**0.750**		**0.875**		**1.125**		**1.375**		**1.625**		**2.125**		**2.625**		**3.125**	
I.D.	**0.5270**		**0.652**		**0.745**		**0.995**		**1.245**		**1.481**		**1.959**		**2.435**		**2.907**	
Wall Thk	**0.049**		**0.049**		**0.065**		**0.065**		**0.065**		**0.072**		**0.083**		**0.095**		**0.109**	
Flow GPM	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss	Velocity fps	psi Loss
1	1.47	1.09	0.96	0.39	0.74	0.20	0.41	0.05	0.26	0.02	0.19	0.01	0.11	0.00	0.07	0.00	0.05	0.00
2	2.94	3.94	1.92	1.40	1.47	0.73	0.83	0.18	0.53	0.06	0.37	0.03	0.21	0.01	0.14	0.00	0.10	0.00
3	4.41	8.34	2.88	2.96	2.21	1.55	1.24	0.38	0.79	0.13	0.56	0.05	0.32	0.01	0.21	0.00	0.15	0.00
4	5.88	14.20	3.84	5.04	2.94	2.63	1.65	0.64	1.05	0.22	0.74	0.09	0.43	0.02	0.28	0.01	0.19	0.00
5	7.35	21.46	4.80	7.62	3.68	3.98	2.06	0.97	1.32	0.33	0.93	0.14	0.53	0.04	0.34	0.01	0.24	0.01
6	8.83	30.06	5.77	10.67	4.42	5.58	2.48	1.36	1.58	0.46	1.12	0.20	0.64	0.05	0.41	0.02	0.29	0.01
7	10.30	39.98	6.73	14.20	5.15	7.42	2.89	1.82	1.84	0.61	1.30	0.26	0.75	0.07	0.48	0.02	0.34	0.01
8	11.77	51.19	7.69	18.17	5.89	9.50	3.30	2.32	2.11	0.78	1.49	0.34	0.85	0.09	0.55	0.03	0.39	0.01
9	13.24	63.65	8.65	22.60	6.62	11.81	3.71	2.89	2.37	0.97	1.68	0.42	0.96	0.11	0.62	0.04	0.44	0.02
10	14.71	77.35	9.61	27.46	7.36	14.35	4.13	3.51	2.64	1.18	1.86	0.51	1.06	0.13	0.69	0.05	0.48	0.02
11	16.18	92.26	10.57	32.76	8.10	17.12	4.54	4.19	2.90	1.41	2.05	0.60	1.17	0.16	0.76	0.05	0.53	0.02
12	17.65	108.38	11.53	38.48	8.83	20.11	4.95	4.92	3.16	1.65	2.23	0.71	1.28	0.18	0.83	0.06	0.58	0.03
14			13.45	51.17	10.30	26.75	5.78	6.54	3.69	2.20	2.61	0.94	1.49	0.24	0.96	0.08	0.68	0.04
16			15.38	65.51	11.78	34.24	6.60	8.38	4.22	2.82	2.98	1.21	1.70	0.31	1.10	0.11	0.77	0.05
18			17.30	81.46	13.25	42.58	7.43	10.42	4.74	3.50	3.35	1.50	1.92	0.39	1.24	0.13	0.87	0.06
20			19.22	98.99	14.72	51.74	8.25	12.66	5.27	4.25	3.72	1.83	2.13	0.47	1.38	0.16	0.97	0.07
22					16.19	61.72	9.08	15.10	5.80	5.07	4.10	2.18	2.34	0.56	1.52	0.19	1.06	0.08
24					17.66	72.50	9.90	17.74	6.33	5.96	4.47	2.56	2.55	0.66	1.65	0.23	1.16	0.10
26					19.14	84.07	10.73	20.57	6.85	6.91	4.84	2.97	2.77	0.76	1.79	0.26	1.26	0.11
28							11.55	23.59	7.38	7.93	5.21	3.41	2.98	0.87	1.93	0.30	1.35	0.13
30							12.38	26.80	7.91	9.01	5.59	3.87	3.19	0.99	2.07	0.34	1.45	0.15
35							14.44	35.65	9.22	11.98	6.52	5.15	3.73	1.32	2.41	0.46	1.69	0.19
40							16.50	45.64	10.54	15.34	7.45	6.59	4.26	1.69	2.76	0.59	1.93	0.25
45							18.57	56.75	11.86	19.07	8.38	8.19	4.79	2.10	3.10	0.73	2.18	0.31
50									13.18	23.17	9.31	9.96	5.32	2.55	3.44	0.89	2.42	0.37
55									14.49	27.64	10.24	11.88	5.85	3.05	3.79	1.06	2.66	0.45
60									15.81	32.47	11.17	13.95	6.39	3.58	4.13	1.24	2.90	0.52
65									17.13	37.65	12.11	16.18	6.92	4.15	4.48	1.44	3.14	0.61
70									18.45	43.18	13.04	18.56	7.45	4.76	4.82	1.65	3.38	0.70
75									19.77	49.06	13.97	21.08	7.98	5.41	5.17	1.88	3.63	0.79
80											14.90	23.76	8.52	6.09	5.51	2.11	3.87	0.89
85											15.83	26.58	9.05	6.81	5.86	2.37	4.11	1.00
90											16.76	29.54	9.58	7.58	6.20	2.63	4.35	1.11
95											17.69	32.65	10.11	8.37	6.55	2.91	4.59	1.23
100											18.62	35.90	10.64	9.21	6.89	3.19	4.83	1.35
110													11.71	10.98	7.58	3.81	5.32	1.61
120													12.77	12.90	8.27	4.48	5.80	1.89
130													13.84	14.96	8.96	5.19	6.28	2.19
140													14.90	17.15	9.65	5.95	6.77	2.51
150													15.97	19.49	10.33	6.76	7.25	2.86
160													17.03	21.96	11.02	7.62	7.73	3.22
170													18.10	24.57	11.71	8.53	8.22	3.60
180													19.16	27.31	12.40	9.48	8.70	4.00
190															13.09	10.47	9.18	4.42
200															13.78	11.52	9.67	4.86
225															15.50	14.32	10.88	6.05
250															17.22	17.40	12.08	7.35
275															18.95	20.76	13.29	8.77
300																	14.50	10.30
325																	15.71	11.94
350																	16.92	13.70
375																	18.13	15.56
400																	19.34	17.53
425																		
450																		
475																		
500																		
550																		

Note: Dark shaded area of chart indicates velocities over 5' per second. Use with caution.

Velocity of flow values are computed from the general equation $V = .408 \frac{Q}{d}2$

Friction pressure loss values are computed from the equation: $\left[hf = 0.2083 \left(\frac{100}{c}\right) 1.852 \frac{Q1.852}{d4.866}\right]$ x.433 for psi loss per 100' of pipe

Pressure Loss Through Water Meters

Pressure Loss: psi
Nominal Size

Flow GPM	5/8"	3/4"	1"	1 1/2"	2"	3	4"
1	0.2	0.1					
2	0.3	0.2					
3	0.4	0.3					
4	0.6	0.5	0.1				
5	0.9	0.6	0.2				
6	1.3	0.7	0.3				
7	1.8	0.8	0.4				
8	2.3	1.0	0.5				
9	3.0	1.3	0.6				
10	3.7	1.6	0.7				
11	4.4	1.9	0.8				
12	5.1	2.2	0.9				
13	6.1	2.6	1.0				
14	7.2	3.1	1.1				
15	8.3	3.6	1.2				
16	9.4	4.1	1.4	0.4			
17	10.7	4.6	1.6	0.5			
18	12.0	5.2	1.8	0.6			
19	13.4	5.8	2.0	0.7			
20	15.0	6.5	2.2	0.8			
22		7.9	2.8	1.0			
24		9.5	3.4	1.2			
26		11.2	4.0	1.4			
28		13.0	4.6	1.6			
30		15.0	5.3	1.8			
32			6.0	2.1	0.8		
34			6.9	2.4	0.9		
36			7.8	2.7	1.0		
38			8.7	3.0	1.2		
40			9.6	3.3	1.3		
42			10.6	3.6	1.4		
44			11.7	3.9	1.5		
46			12.8	4.2	1.6		
48			13.9	4.5	1.7		
50			15.0	4.9	1.9	0.7	
52				5.3	2.1		
54				5.7	2.2		
56				6.2	2.3		
58				6.7	2.5		
60				7.2	2.7		
65				8.3	3.2	1.1	
70				9.8	3.7	1.3	
75				11.2	4.3	1.5	
80				12.8	4.9	1.6	0.7
90				16.1	6.2	2.0	0.8
100				20.0	7.8	2.5	0.9
110					9.5	2.9	1.0
120					11.3	3.4	1.2
130					13.0	3.9	1.4
140					15.1	4.5	1.6
150					17.3	5.1	1.8
160					20.0	5.8	2.1
170						6.5	2.4
180						7.2	2.7
190						8.0	3.0
200						9.0	3.2
220						11.0	3.9
240						13.0	4.7
260						15.0	5.5
280						17.3	6.3
300						20.0	7.2
350							10.0
400							13.0
450							16.2
500							20.0

Warranties

Rain Bird's Professional Customer Satisfaction Policy

Rain Bird will repair or replace at no charge any Rain Bird professional product that fails in normal use within the warranty period stated below. You must return it to the dealer or distributor where you bought it. Product failures due to acts of God including without limitation, lightning and flooding, are not covered by this warranty. This commitment to repair or replace is our sole and total warranty.

Implied warranties of merchantability and fitness, if applicable, are limited to one year from the date of sale.

We will not, under any circumstances be liable for incidental or consequential damages, no matter how they occur.

I. Turf Products

Falcon® 6504 Series rotors, the T-Bird® Series rotors, R-50 Series rotors, 7005 and 8005 rotors, 5000 Series rotors, 1800 Series pop-up spray heads, U-Series nozzles, brass MPR nozzles, A-8S and PA-8S-PRS shrub adapters and 1300 and 1400 bubblers, RSD-BEx and RSD-CEx - 5 years.

Lake Management Aerator: LM10, LM11, LM20, LM30 - 5 years

Lake Management Aerator: LMM - 2 years

Lake Management Aerator Lights - 1 year

Commercial Pump Stations - 24 months from the start-up or 30 months from the date of shipment.

All other turf products - 3 years.

II. Golf Products

Golf Rotors: TG-25, DR, DH, DS, ESR and EAGLE™ series Golf rotors - 3 years. Additionally, any TG-25, DR, DH, DS or EAGLE™ rotor sold and installed in conjunction with a Rain Bird swing joint - 5 years. Proof of concurrent installation is required.

Swing Joints - 5 years.

Brass And Plastic Valves: EFB and PE-B Remote Control Valves, and Brass Quick Coupling Valves and Keys - 3 years.

Filtration system controllers - 3 years.

Lake Management Aerator: LM10, LM11, LM20, LM30 - 5 years

Lake Management Aerator: LMM - 2 years

Lake Management Aerator Lights - 1 year

All other golf products - 1 year.

III. Agricultural Products

PC Dripline - 3 years

Rain Guns - 3 years (in agricultural applications only)

Disk Filters - 1 year

Pressure Gauges - 1 year

All other agricultural products - 2 years.

IV. All Other Products - 1 year.

For more information, see your Rain Bird distributor or call 800-458-3005.

Notes

Notes

The Intelligent Use of Water™

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.

The need to conserve water has never been greater. We want to do even more, and with your help, we can. Visit www.rainbird.com for more information about The Intelligent Use of Water.™

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