# LANDSCAPE SOLUTIONS

Properly maintained clubhouse grounds and landscapes enhance the environment upon which the game is played, and create positive impressions that encourage repeat rounds or an increase in memberships. Rain Bird offers a number of landscape irrigation solutions — from sprays and nozzles to low-volume drip and root watering systems — that manage water responsibly, while promoting the growth of healthy, stress-free plants and grass areas. For a complete listing of landscape products, please consult the Rain Bird Landscape Irrigation Products–2014 Catalog.

# RD1800™ Series Spray Heads

4", 6", 12" (10.2 cm; 15.2 cm; 30.5 cm)

- Designed for use with all Rain Bird plastic spray head nozzles – Rotary Nozzles, U-Series, MPR, VAN, HE-VAN and SQ Series
- Parts resistant to corrosion in treated recycled water containing chlorine and other chemicals
- Strong stainless steel spring provides reliable stem retraction and withstands corrosion
- Exclusive co-molded, pressure-activated Triple-Blade Wiper Seal ensures a positive seal without excess "flow-by", which enables more heads to be installed on the same valve.
- Debris pockets in the base of the spray body prevent recirculation of harmful debris during operation.
- Reinforced ratchet mechanism allows easy nozzle pattern alignment without tools, withstands chemicals and prevents pattern misalignment over time.
- Pre-installed 1800 Pop-Top™ flush plug blocks debris from entering after flushing and allows for easy nozzle installation.
- UV-resistant plastic and stainless steel parts, assure long product life.
- All sprinkler components are removable from the top without special tools, for quick and easy flushing and maintenance.
- Side inlets featured on non Seal-A-Matic™ (SAM) models only.
- Five-year trade warranty.

**Spacing:** 2.5 to 24 feet (0.8 to 7.3 m)

**Pressure:** SAM Models: 15 to 100 psi (1.0 to 6.9 bar)
All Other Models: 15 to 70 psi (1.0 to 4.8 bar)

## MODELS

| 4" MODELS | |
|---|---|
| RD-04-NP | RD-04-S-P30-F |
| RD-04-S | RD-04-S-P30-F-N |
| RD-04-S-NP | RD-04-S-P45-F |
| RD-04-S-P30 | RD-04-S-P45FN |
| **6" MODELS** | |
| RD-06 | RD-06-S-P30-F |
| RD-06-NP | RD-06-S-P30-F-N |
| RD-06-S | RD-06-S-P45-F |
| RD-06-S-NP | RD-06-S-P45-F-N |
| RD-06-S-P30 | |
| **12" MODELS** | |
| RD-12 | RD-12-S-P30-F |
| RD-12-NP | RD-12-S-P30-F-N |
| RD-12-S | RD-12-S-P45-F |
| RD-12-S-NP | RD-12-S-P45-FN |
| RD-12-S-P30 | |

## SPECIFICATIONS

**Flow-by:** SAM Models: 0 at 15 psi (1.0 bar) or greater; 0.5 gpm (0.1 $m^3$/h; 0.03 l/s) otherwise

**All Other Models:** 0 at 10 psi (0.7 bar) or greater; 0.5 gpm (0.1 $m^3$/h; 0.03 l/s) otherwise

- ½" (15/21) NPT female threaded inlet
- **Models and height:**
  - **RD-04:** 6" (15 cm) body height; 4" pop-up height (10.2 cm)
  - **RD-06:** 9 3/8" (24 cm) body height; 6" pop-up height (15.2 cm)
  - **RD-12:** 16" (40 cm) body height; 12" pop-up height (30.5 cm)
  - **Exposed surface diameter:** 2 ¼" (5.7 cm)

# RD1800™ 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
- Stronger retract spring to accommodate elevation changes up to 14' (4.2 m). One of the strongest springs in the industry
- Prevents drainage from spray heads at lower elevations. Stops water waste. Ends landscape damage due to flooding and erosion

## FEATURES

- Incorporates all RD1800™ series features
- Ideal for use in areas with changing elevations
- Retains water in lateral pipes which reduces wear on system components by minimizing water hammer during start-up
- "SAM" printed on the cap for easy identification and maintenance

# RD1800™ SAM PRS Series

4", 6", 12" (10.2 cm, 15.2 cm, 30.5 cm)

- Incorporates all RD1800 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

● RD 1800 Series

## HOW TO SPECIFY

**RDXX – X – Nozzle**

**Model**
RD-04
RD-06
RD-12

**Nozzle**
See Rotary Nozzle, U-Series, MPR, VAN, HE-VAN and SQ Nozzle Specifications

**Optional Feature**
S: SAM
P30: 30 psi (2.1 bar) PRS
P45: 45 psi (3.1 bar) PRS
F: Flow Shield™
NP: Non-Potable Water indication

LANDSCAPE SOLUTIONS

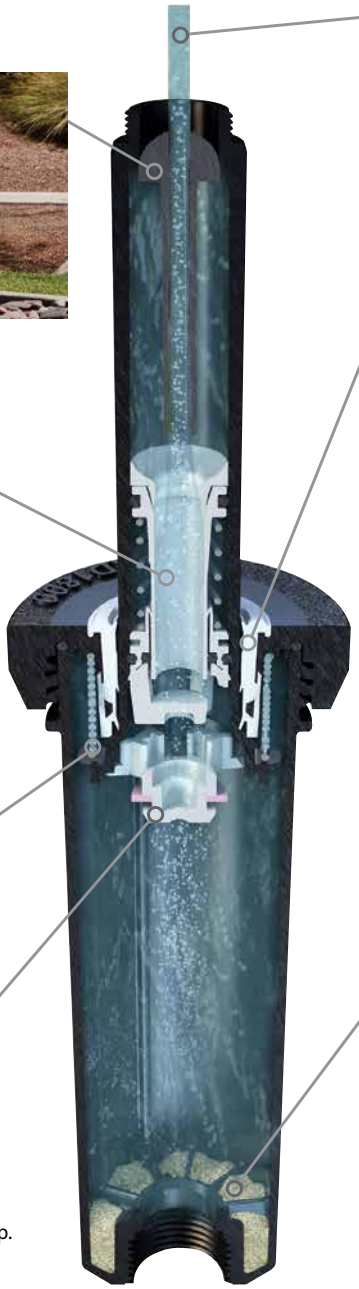
*Performance data derived from tests that conform with ASAE Standards; ASAE S398.1, Procedure for Sprinkler Testing and Performance Reporting.*

### Exclusive Flow-Shield™ Technology

Exclusive Flow-Shield™ Technology provides up to 90% reduction in water loss when a nozzle is removed, preventing potentially costly and unacceptable run-off.

### Low-Flow Service Indication Stream

Exclusive Flow-Shield Technology delivers a low-flow service indication stream when a nozzle is removed. As a result, system performance is maintained, water is saved and you don't have to wait until you have brown grass or dead plants to notice something's wrong.



### Patented Pressure Regulator

The RD1800's patented pressure regulator increases nozzle efficiency by up to 50% in high pressure applications.

### Triple-Blade Wiper Seal

The RD1800™ series features an exclusive Triple-Blade Wiper Seal. The top seal flushes during pop-up and wipes the stem clean during retraction, preventing external debris from entering. During operation, the primary seal combines with the stem's surface to eliminate flow-by. The exclusive third blade provides another line of defense, in case the primary seal is damaged.


### Reinforced Ratchet Mechanism

The RD1800's ratchet mechanism was designed to improve ease of use and consistency, hold its setting over time, withstand years of chlorine exposure and provide greater debris resistance.

### Reclaimed Water Resistance

The RD1800 Series is designed with reclaimed water resistant materials such as EPPM and Polyester. These materials resist degradation caused by chlorine in reclaimed water, ensuring a longer life.

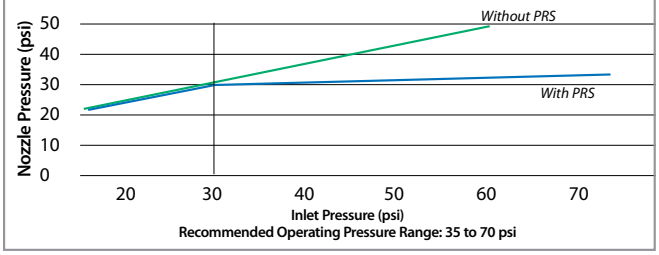
### Seal-A-Matic™ (SAM) Check Valve

Exclusive to Rain Bird, the SAM check valve holds back up to 14 feet of head and helps eliminate low head drainage, erosion, run-off and water hammer at start-up.

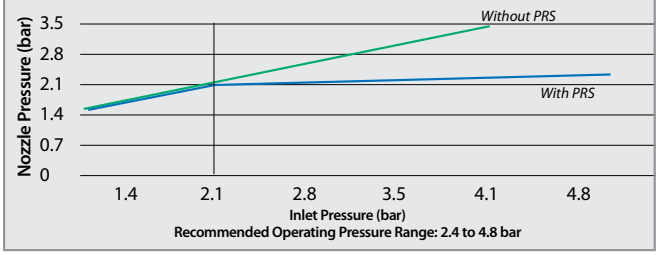
### Unique Debris Pockets

With each system start-up, the RD1800's unique debris pockets hold grit in place—removing it from circulation and preventing long-term damage.

**RD1800-PRS PERFORMANCE**




**RD1800-PRS PERFORMANCE METRIC**



# Rotary Nozzles

- 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

### A Spray Nozzle with Rain Curtain Performance

- Large droplets for consistent performance.
- Effective close-in watering.
- Even distribution over the entire radius.

### Installation and Maintenance

- Designed for use on Rain Bird® Spray bodies.
- Color-coded radius reduction screws for easy identification.
- 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.
- Maintains highly efficient performance throughout the 20–55 psi pressure range, with no misting or fogging at high pressures.

### Design Solutions

- 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'.

### Durability

- Rubber collar keeps out large debris particles while enabling small ones to exit easily to keep deflector clean and clear of debris.
- Screen mesh size prevents large debris from entering nozzle through spray.
- Three-year trade warranty.

## OPERATING RANGE

**Pressure range:** 20-55 psi (1.4 to 3.8 bar)

**Spacing:** 13' to 24' (4.0 m to 7.3 m)

*Above spacing based on zero wind conditions.*
*Recommend spacing 13' – 22' (4.0 m to 6.8 m).*

## MODELS

- There are three different patterns available which are available in two radius ranges*:
  - » 13' to 18' (4.0 m to 5.5 m)
  - » 17' to 24' (5.2 m to 7.3 m)

*See tables on following page

● Rotary Nozzle

## HOW TO SPECIFY

**XXXX – SAM – RXX – XX**

**Model**
1802
1803
1804
1806
1812

**Optional Feature**
SAM

**Nozzle**
Rotary Nozzle

**Radius Range**
13'–18' (4.0–5.5 m)
17' –24' (5.2–7.3 m)

**Pattern**
F = Full
H = ½
Q = ¼

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

## R13–18 SERIES (BLACK)

| U.S. | | | | | | METRIC | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ■ | ▲ | | | | ■ | ▲ |
| Arc | Pressure (psi) | Radius (ft) | Flow (gpm) | Precip (in/hr) | Precip (in/hr) | Pressure (bar) | Radius (m) | Flow (l/m) | Precip (mm/h) | Precip (mm/h) |
| R13-18F | 20 | 13 | 1.31 | 0.75 | 0.86 | 1.4 | 4.0 | 4.95 | 19 | 22 |
| | 25 | 14 | 1.46 | 0.67 | 0.77 | 1.7 | 4.3 | 5.53 | 18 | 21 |
| | 30 | 16 | 1.60 | 0.61 | 0.70 | 2.1 | 4.8 | 6.06 | 15 | 18 |
| | 35 | 16 | 1.73 | 0.61 | 0.70 | 2.4 | 5.0 | 6.54 | 15 | 18 |
| | 40 | 17 | 1.85 | 0.61 | 0.70 | 2.8 | 5.2 | 6.99 | 15 | 18 |
| | 45 | 18 | 1.96 | 0.61 | 0.70 | 3.1 | 5.4 | 7.42 | 15 | 18 |
| | 50 | 18 | 2.07 | 0.61 | 0.70 | 3.4 | 5.5 | 7.82 | 15 | 18 |
| | 55 | 18 | 2.17 | 0.61 | 0.70 | 3.8 | 5.6 | 8.20 | 15 | 18 |
| R13-18H | 20 | 13 | 0.65 | 0.75 | 0.86 | 1.4 | 4.0 | 2.47 | 19 | 22 |
| | 25 | 14 | 0.73 | 0.67 | 0.77 | 1.7 | 4.3 | 2.76 | 18 | 21 |
| | 30 | 16 | 0.80 | 0.61 | 0.70 | 2.1 | 4.8 | 3.03 | 15 | 18 |
| | 35 | 16 | 0.86 | 0.61 | 0.70 | 2.4 | 5.0 | 3.27 | 15 | 18 |
| | 40 | 17 | 0.92 | 0.61 | 0.70 | 2.8 | 5.2 | 3.50 | 15 | 18 |
| | 45 | 18 | 0.98 | 0.61 | 0.70 | 3.1 | 5.4 | 3.71 | 15 | 18 |
| | 50 | 18 | 1.03 | 0.61 | 0.70 | 3.4 | 5.5 | 3.91 | 15 | 18 |
| | 55 | 18 | 1.08 | 0.61 | 0.70 | 3.8 | 5.6 | 4.10 | 15 | 18 |
| R13-18Q | 20 | 13 | 0.33 | 0.75 | 0.86 | 1.4 | 4.0 | 1.24 | 19 | 22 |
| | 25 | 14 | 0.37 | 0.67 | 0.77 | 1.7 | 4.3 | 1.38 | 18 | 21 |
| | 30 | 16 | 0.40 | 0.61 | 0.70 | 2.1 | 4.8 | 1.51 | 15 | 18 |
| | 35 | 16 | 0.43 | 0.61 | 0.70 | 2.4 | 5.0 | 1.64 | 15 | 18 |
| | 40 | 17 | 0.46 | 0.61 | 0.70 | 2.8 | 5.2 | 1.75 | 15 | 18 |
| | 45 | 18 | 0.49 | 0.61 | 0.70 | 3.1 | 5.4 | 1.85 | 15 | 18 |
| | 50 | 18 | 0.52 | 0.61 | 0.70 | 3.4 | 5.5 | 1.95 | 15 | 18 |
| | 55 | 18 | 0.54 | 0.61 | 0.70 | 3.8 | 5.6 | 2.05 | 15 | 18 |

## R17–24 SERIES (YELLOW)

| U.S. | | | | | | METRIC | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ■ | ▲ | | | | ■ | ▲ |
| Arc | Pressure (psi) | Radius (ft) | Flow (gpm) | Precip (in/hr) | Precip (in/hr) | Pressure (bar) | Radius (m) | Flow (l/m) | Precip (mm/h) | Precip (mm/h) |
| R17-24F | 20 | 17 | 2.45 | 0.79 | 0.92 | 1.4 | 5.2 | 9.27 | 20 | 23 |
| | 25 | 19 | 2.74 | 0.71 | 0.82 | 1.7 | 5.8 | 10.37 | 18 | 21 |
| | 30 | 21 | 3.00 | 0.65 | 0.75 | 2.1 | 6.4 | 11.36 | 16 | 19 |
| | 35 | 22 | 3.24 | 0.65 | 0.75 | 2.4 | 6.7 | 12.26 | 16 | 19 |
| | 40 | 23 | 3.46 | 0.65 | 0.75 | 2.8 | 6.9 | 13.10 | 16 | 19 |
| | 45 | 23 | 3.67 | 0.65 | 0.75 | 3.1 | 7.1 | 13.89 | 16 | 19 |
| | 50 | 24 | 3.87 | 0.65 | 0.75 | 3.4 | 7.3 | 14.65 | 16 | 19 |
| | 55 | 24 | 4.06 | 0.65 | 0.75 | 3.8 | 7.4 | 15.37 | 16 | 19 |
| R17-24H | 20 | 17 | 1.22 | 0.79 | 0.92 | 1.4 | 5.2 | 4.62 | 20 | 23 |
| | 25 | 19 | 1.37 | 0.71 | 0.82 | 1.7 | 5.8 | 519 | 18 | 21 |
| | 30 | 21 | 1.50 | 0.65 | 0.75 | 2.1 | 6.4 | 5.68 | 16 | 19 |
| | 35 | 22 | 1.62 | 0.65 | 0.75 | 2.4 | 6.7 | 6.17 | 16 | 19 |
| | 40 | 23 | 1.73 | 0.65 | 0.75 | 2.8 | 6.9 | 6.55 | 16 | 19 |
| | 45 | 23 | 1.84 | 0.65 | 0.75 | 3.1 | 7.1 | 6.97 | 16 | 19 |
| | 50 | 24 | 1.94 | 0.65 | 0.75 | 3.4 | 7.3 | 7.34 | 16 | 19 |
| | 55 | 24 | 2.03 | 0.65 | 0.75 | 3.8 | 7.4 | 7.68 | 16 | 19 |
| R17-24Q | 20 | 17 | 0.61 | 0.79 | 0.92 | 1.4 | 5.2 | 2.31 | 20 | 23 |
| | 25 | 19 | 0.68 | 0.71 | 0.82 | 1.7 | 5.8 | 2.57 | 18 | 21 |
| | 30 | 21 | 0.75 | 0.65 | 0.75 | 2.1 | 6.4 | 2.84 | 16 | 19 |
| | 35 | 22 | 0.81 | 0.65 | 0.75 | 2.4 | 6.7 | 3.07 | 16 | 19 |
| | 40 | 23 | 0.87 | 0.65 | 0.75 | 2.8 | 6.9 | 3.29 | 16 | 19 |
| | 45 | 23 | 0.92 | 0.65 | 0.75 | 3.1 | 7.1 | 3.48 | 16 | 19 |
| | 50 | 24 | 0.97 | 0.65 | 0.75 | 3.4 | 7.3 | 3.67 | 16 | 19 |
| | 55 | 24 | 1.02 | 0.65 | 0.75 | 3.8 | 7.4 | 3.86 | 16 | 19 |

## HE-VAN Series Nozzles

NEW

High-Efficiency Variable Arc Spray Nozzles

- Easy arc adjustment from 0° to 360° with a simple twist of the center collar to increase or decrease arc setting
- ExactEdge™ takes the guesswork out of arc adjustment. As you turn the nozzle to the desired arc setting, you'll feel it lock into place for a clean, consistent edge every time
- Patent pending Flow Control Technology provides superior close-in watering and uniform coverage across the entire pattern

- 12' and 15' models
- 8' and 10' models

### FEATURES

- Thicker streams and large water droplets for greater wind resistance
- Matched precipitation rates with Rain Bird® MPR and U-Series nozzles
- A strong top deflector to minimize nozzle damage due to normal wear and tear
- No special tools required
- Stainless steel adjustment screw to adjust flow and radius, up to a 25% reduction in radius
- Shipped with blue filter screens (0.02 x 0.02) to maintain precise radius adjustment and prevent clogging
- Fits on all Rain Bird® 1800® series spray heads, UNI-Spray™ series spray heads and Rain Bird shrub adapters

### Rain Bird® HE-VAN Efficiency Ratings[1]

- Rain Bird® HE-VAN Nozzles deliver an average DULQ of 70%, more than a 40% improvement over typical variable arc spray nozzles
- Rain Bird® HE-VAN Nozzles deliver a SC ≤ 1.6, which is 35% lower than the typical variable arc spray nozzle

### OPERATING RANGE

**Radius:**[2]

**HE-VAN-08:** 6 to 8 feet (1.8 to 2.4 m)

**HE-VAN-10:** 8 to 10 feet (2.4 to 3.0 m)

**HE-VAN-12:** 9 to 12 feet (2.7 to 3.7 m)

**HE-VAN-15:** 12 to 15 feet (3.7 to 4.6 m)

**Pressure:** 15 to 30 psi (1.0 to 2.1 bar)

**Optimum Pressure:** 30 psi (2.1 bar)[3]


### MODELS

- HE-VAN-08
- HE-VAN-10
- HE-VAN-12
- HE-VAN-15

*[1]Distribution Uniformity ($DU_{LQ}$): DU in irrigation is a measure of how uniformly water is applied to the area being watered. $DU_{LQ}$ is calculated by taking the volume in the lowest quarter of catch can measurements and dividing it by the average volume of all catch can measurements. Scheduling Coefficient (SC): SC is a measure of how long a zone must be run in order to provide adequate water to the driest spot.*

*[2]These ranges are based on proper pressure at nozzle*

*[3]Rain Bird recommends using 1800 PRS Spray Bodies to maintain optimum nozzle performance in higher pressure situations*

### HOW TO SPECIFY

**HE – VAN – XX**

**Model**
High Efficiency Nozzle

**Feature**
VAN: Variable Arc

**Radius Range**
08: 6–8 ft
10: 8–10 ft
12: 9–12 ft
15: 12–15 ft

## 8 SERIES HE-VAN — U.S.

**24° TRAJECTORY**

| Nozzle | Pressure (psi) | Radius (ft) | Flow (gpm) | Precip (in/hr) ■ | Precip (in/hr) ▲ |
|---|---|---|---|---|---|
| 360° Arc | 15 | 5 | 0.83 | 3.19 | 3.68 |
| | 20 | 6 | 0.96 | 2.56 | 2.95 |
| | 25 | 7 | 1.07 | 2.10 | 2.42 |
| | 30 | 8 | 1.17 | 1.76 | 2.03 |
| 270° Arc | 15 | 5 | 0.62 | 3.19 | 3.68 |
| | 20 | 6 | 0.72 | 2.56 | 2.95 |
| | 25 | 7 | 0.80 | 2.10 | 2.42 |
| | 30 | 8 | 0.88 | 1.76 | 2.03 |
| 180° Arc | 15 | 5 | 0.41 | 3.19 | 3.68 |
| | 20 | 6 | 0.48 | 2.56 | 2.95 |
| | 25 | 7 | 0.53 | 2.10 | 2.42 |
| | 30 | 8 | 0.59 | 1.76 | 2.03 |
| 90° Arc | 15 | 5 | 0.21 | 3.19 | 3.68 |
| | 20 | 6 | 0.24 | 2.56 | 2.95 |
| | 25 | 7 | 0.27 | 2.10 | 2.42 |
| | 30 | 8 | 0.29 | 1.76 | 2.03 |

## 10 SERIES HE-VAN — U.S.

**27° TRAJECTORY**

| Nozzle | Pressure (psi) | Radius (ft) | Flow (gpm) | Precip (in/hr) ■ | Precip (in/hr) ▲ |
|---|---|---|---|---|---|
| 360° Arc | 15 | 7 | 1.26 | 2.48 | 2.86 |
| | 20 | 8 | 1.46 | 2.19 | 2.53 |
| | 25 | 9 | 1.63 | 1.94 | 2.24 |
| | 30 | 10 | 1.78 | 1.72 | 1.98 |
| 270° Arc | 15 | 7 | 0.95 | 2.48 | 2.86 |
| | 20 | 8 | 1.09 | 2.19 | 2.53 |
| | 25 | 9 | 1.22 | 1.94 | 2.24 |
| | 30 | 10 | 1.34 | 1.72 | 1.98 |
| 180° Arc | 15 | 7 | 0.63 | 2.48 | 2.86 |
| | 20 | 8 | 0.73 | 2.19 | 2.53 |
| | 25 | 9 | 0.81 | 1.94 | 2.24 |
| | 30 | 10 | 0.89 | 1.72 | 1.98 |
| 90° Arc | 15 | 7 | 0.32 | 2.48 | 2.86 |
| | 20 | 8 | 0.36 | 2.9 | 2.53 |
| | 25 | 9 | 0.41 | 1.94 | 2.24 |
| | 30 | 10 | 0.45 | 1.72 | 1.98 |

## 8 SERIES HE-VAN — METRIC

**24° TRAJECTORY**

| Nozzle | Pressure (Bar) | Radius (m) | Flow ($m^3/h$) | Flow (l/m) | Precip (mm/h) ■ | Precip (mm/h) ▲ |
|---|---|---|---|---|---|---|
| 360° Arc | 1.03 | 1.52 | 0.19 | 3.14 | 82 | 95 |
| | 1.38 | 1.83 | 0.22 | 3.62 | 66 | 76 |
| | 1.72 | 2.13 | 0.25 | 4.05 | 54 | 62 |
| | 2.07 | 2.44 | 0.27 | 4.43 | 45 | 52 |
| 270° Arc | 1.03 | 1.52 | 0.14 | 2.35 | 82 | 95 |
| | 1.38 | 1.83 | 0.16 | 2.72 | 66 | 76 |
| | 1.72 | 2.13 | 0.18 | 3.04 | 54 | 62 |
| | 2.07 | 2.44 | 0.20 | 3.33 | 45 | 52 |
| 180° Arc | 1.03 | 1.52 | 0.10 | 1.57 | 82 | 95 |
| | 1.38 | 1.83 | 0.11 | 1.81 | 66 | 76 |
| | 1.72 | 2.13 | 0.12 | 2.02 | 54 | 62 |
| | 2.07 | 2.44 | 0.13 | 2.22 | 45 | 52 |
| 90° Arc | 1.03 | 1.52 | 0.05 | 0.78 | 82 | 95 |
| | 1.38 | 1.83 | 0.05 | 0.91 | 66 | 76 |
| | 1.72 | 2.13 | 0.06 | 1.01 | 54 | 62 |
| | 2.07 | 2.44 | 0.07 | 1.11 | 45 | 52 |

## 10 SERIES HE-VAN — METRIC

**27° TRAJECTORY**

| Nozzle | Pressure (Bar) | Radius (m) | Flow ($m^3/h$) | Flow (l/m) | Precip (mm/h) ■ | Precip (mm/h) ▲ |
|---|---|---|---|---|---|---|
| 360° Arc | 1.03 | 2.13 | 0.29 | 4.78 | 64 | 74 |
| | 1.38 | 2.44 | 0.34 | 5.52 | 56 | 65 |
| | 1.72 | 2.74 | 0.37 | 6.17 | 50 | 57 |
| | 2.07 | 3.05 | 0.41 | 6.76 | 44 | 51 |
| 270° Arc | 1.03 | 2.13 | 0.22 | 3.59 | 64 | 74 |
| | 1.38 | 2.44 | 0.25 | 4.14 | 56 | 65 |
| | 1.72 | 2.74 | 0.28 | 4.63 | 50 | 57 |
| | 2.07 | 3.05 | 0.31 | 5.07 | 44 | 51 |
| 180° Arc | 1.03 | 2.13 | 0.15 | 2.39 | 64 | 74 |
| | 1.38 | 2.44 | 0.17 | 2.76 | 56 | 65 |
| | 1.72 | 2.74 | 0.19 | 3.09 | 50 | 57 |
| | 2.07 | 3.05 | 0.21 | 3.38 | 44 | 51 |
| 90° Arc | 1.03 | 2.13 | 0.07 | 1.20 | 64 | 74 |
| | 1.38 | 2.44 | 0.08 | 1.38 | 56 | 65 |
| | 1.72 | 2.74 | 0.09 | 1.54 | 50 | 57 |
| | 2.07 | 3.05 | 0.10 | 1.69 | 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.

■ Square spacing based on 50% diameter of throw. ▲ Triangular spacing based on 50% diameter of throw. Performance data taken in zero wind conditions.

## 12 SERIES HE-VAN — U.S.

**23° TRAJECTORY**

| Nozzle | Pressure (psi) | Radius (ft) | Flow (gpm) | Precip (in/hr) ■ | Precip (in/hr) ▲ |
|---|---|---|---|---|---|
| 360° Arc | 15 | 9 | 1.67 | 1.99 | 2.30 |
| | 20 | 10 | 1.93 | 1.86 | 2.15 |
| | 25 | 11 | 2.16 | 1.72 | 1.99 |
| | 30 | 12 | 2.37 | 1.58 | 1.83 |
| 270° Arc | 15 | 9 | 1.25 | 1.99 | 2.30 |
| | 20 | 10 | 1.45 | 1.86 | 2.15 |
| | 25 | 11 | 1.62 | 1.72 | 1.99 |
| | 30 | 12 | 1.77 | 1.58 | 1.83 |
| 180° Arc | 15 | 9 | 0.84 | 1.99 | 2.30 |
| | 20 | 10 | 0.97 | 1.86 | 2.15 |
| | 25 | 11 | 1.08 | 1.72 | 1.99 |
| | 30 | 12 | 1.18 | 1.58 | 1.83 |
| 90° Arc | 15 | 9 | 0.42 | 1.99 | 2.30 |
| | 20 | 10 | 0.48 | 1.86 | 2.15 |
| | 25 | 11 | 0.54 | 1.72 | 1.99 |
| | 30 | 12 | 0.59 | 1.58 | 1.83 |

## 15 SERIES HE-VAN — U.S.

**25° TRAJECTORY**

| Nozzle | Pressure (psi) | Radius (ft) | Flow (gpm) | Precip (in/hr) ■ | Precip (in/hr) ▲ |
|---|---|---|---|---|---|
| 360° Arc | 15 | 11 | 2.62 | 2.08 | 2.40 |
| | 20 | 12 | 3.02 | 2.02 | 2.33 |
| | 25 | 14 | 3.38 | 1.66 | 1.92 |
| | 30 | 15 | 3.70 | 1.58 | 1.83 |
| 270° Arc | 15 | 11 | 1.96 | 2.08 | 2.40 |
| | 20 | 12 | 2.27 | 2.02 | 2.33 |
| | 25 | 14 | 2.53 | 1.66 | 1.92 |
| | 30 | 15 | 2.78 | 1.58 | 1.83 |
| 180° Arc | 15 | 11 | 1.31 | 2.08 | 2.40 |
| | 20 | 12 | 1.51 | 2.02 | 2.33 |
| | 25 | 14 | 1.69 | 1.66 | 1.92 |
| | 30 | 15 | 1.85 | 1.58 | 1.83 |
| 90° Arc | 15 | 11 | 0.65 | 2.08 | 2.40 |
| | 20 | 12 | 0.76 | 2.02 | 2.33 |
| | 25 | 14 | 0.84 | 1.66 | 1.92 |
| | 30 | 15 | 0.93 | 1.58 | 1.83 |

## 12 SERIES HE-VAN — METRIC

**23° TRAJECTORY**

| Nozzle | Pressure (Bar) | Radius (m) | Flow ($m^3/h$) | Flow (l/m) | Precip (mm/h) ■ | Precip (mm/h) ▲ |
|---|---|---|---|---|---|---|
| 360° Arc | 1.0 | 2.7 | 0.38 | 6.33 | 50.5 | 58.3 |
| | 1.4 | 3.0 | 0.44 | 7.31 | 47.3 | 54.6 |
| | 1.7 | 3.4 | 0.49 | 8.18 | 43.7 | 50.4 |
| | 2.1 | 3.7 | 0.54 | 8.96 | 40.2 | 46.4 |
| 270° Arc | 1.0 | 2.7 | 0.28 | 4.75 | 50.5 | 58.3 |
| | 1.4 | 3.0 | 0.33 | 5.48 | 47.3 | 54.6 |
| | 1.7 | 3.4 | 0.37 | 6.16 | 43.7 | 50.4 |
| | 2.1 | 3.7 | 0.40 | 6.72 | 40.2 | 46.4 |
| 180° Arc | 1.0 | 2.7 | 0.19 | 3.17 | 50.5 | 58.3 |
| | 1.4 | 3.0 | 0.22 | 3.66 | 47.3 | 54.6 |
| | 1.7 | 3.4 | 0.25 | 4.09 | 43.7 | 50.4 |
| | 2.1 | 3.7 | 0.27 | 4.48 | 40.2 | 46.4 |
| 90° Arc | 1.0 | 2.7 | 0.09 | 1.58 | 50.5 | 58.3 |
| | 1.4 | 3.0 | 0.11 | 1.83 | 47.3 | 54.6 |
| | 1.7 | 3.4 | 0.12 | 2.04 | 43.7 | 50.4 |
| | 2.1 | 3.7 | 0.13 | 2.24 | 40.2 | 46.4 |

## 15 SERIES HE-VAN — METRIC

**25° TRAJECTORY**

| Nozzle | Pressure (Bar) | Radius (m) | Flow ($m^3/h$) | Flow (l/m) | Precip (mm/h) ■ | Precip (mm/h) ▲ |
|---|---|---|---|---|---|---|
| 360° Arc | 1.0 | 3.4 | 0.59 | 9.91 | 52.9 | 61.1 |
| | 1.4 | 3.7 | 0.69 | 11.44 | 51.3 | 59.3 |
| | 1.7 | 4.3 | 0.77 | 12.79 | 42.2 | 48.7 |
| | 2.1 | 4.6 | 0.84 | 14.01 | 40.2 | 46.5 |
| 270° Arc | 1.0 | 3.4 | 0.45 | 7.43 | 52.9 | 61.1 |
| | 1.4 | 3.7 | 0.51 | 8.58 | 51.3 | 59.3 |
| | 1.7 | 4.3 | 0.58 | 9.59 | 42.2 | 48.7 |
| | 2.1 | 4.6 | 0.63 | 10.51 | 40.2 | 46.5 |
| 180° Arc | 1.0 | 3.4 | 0.30 | 4.95 | 52.9 | 61.1 |
| | 1.4 | 3.7 | 0.34 | 5.72 | 51.3 | 59.3 |
| | 1.7 | 4.3 | 0.38 | 6.39 | 42.2 | 48.7 |
| | 2.1 | 4.6 | 0.42 | 7.00 | 40.2 | 46.5 |
| 90° Arc | 1.0 | 3.4 | 0.15 | 2.48 | 52.9 | 61.1 |
| | 1.4 | 3.7 | 0.17 | 2.86 | 51.3 | 59.3 |
| | 1.7 | 4.3 | 0.19 | 3.20 | 42.2 | 48.7 |
| | 2.1 | 4.6 | 0.21 | 3.50 | 40.2 | 46.5 |

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

■ Square spacing based on 50% diameter of throw. ▲ Triangular spacing based on 50% diameter of throw. Performance data taken in zero wind conditions.

## R-VAN Series Nozzles

NEW

Variable arc rotary nozzles let you quickly adjust arc and radius by hand

- Hand-adjustable arc and radius — no special tools required.
- Low precipitation rate reduces run-off and the potential for erosion.
- High uniformity, thick, wind-resistant streams and larger water droplets ensure efficient performance, even in adverse conditions.

### FEATURES

- Adjustable arc from 45° to 270°
- Meet tight watering windows — R-VAN's optimum precipitation rate strikes the perfect balance between rate of application and infiltration
- Color coded for easy identification of R-VAN model
- Compatible with all models of Rain Bird spray bodies in addition to a wide variety of risers and adapters
- Installing with Rain Bird® 5000 series rotor matched precipitation rate (MPR) nozzles allows for MPR irrigation designs from 13' to 35' (4.0 m 10.7 m)
- Three year trade warranty

### OPERATING RANGE

**Pressure Range:** 20 to 55 psi (1.4 to 3.8 bar)

**Recommended Operating Pressure:** 45 psi (3.1 bar)

**Spacing:** 13' to 24' (4.0 to 7.3m)

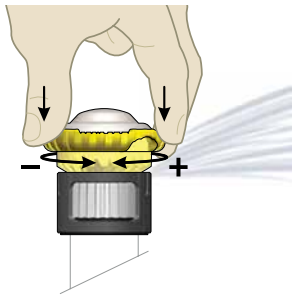
**Adjustments:** Arc and radius should be adjusted while water is running

### MODELS

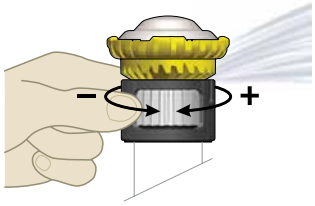
**R-VAN1318**
Black Rotary Deflector
13' to 18' (4.0 to 5.5m) radius
45º to 270º arc

**R-VAN1724**
Yellow Rotary Deflector
17' to 24' (5.2 to 7.3m) radius
45º to 270º arc

- **R-VAN Series Nozzles**




*Arc Adjustment*




*Radius Adjustment*

*NOTES: Single row applications are not recommended. Operation of radius below minimum radius (per model) is not recommended. Installation on Rain Bird 1800SAM-P45 spray bodies recommended in sandy environments. Performance data derived from tests that conform with ASABE Standards; ASABE S398.1.*

### HOW TO SPECIFY

**R–VAN – XXXX**

**Model**
Adjustable Rotary Nozzle

**Radius Range**
1318: 13' to 18'
1724: 17' to 24'

## R-VAN 1318 (BLACK)

| | U.S. | | | | | METRIC | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ■ | ▲ | | | | ■ | ▲ |
| Arc | Pressure (psi) | Radius (ft) | Flow (gpm) | Precip (in/hr) | Precip (in/hr) | Pressure (bar) | Radius (m) | Flow (l/m) | Precip (mm/h) | Precip (mm/h) |
| 270° Arc | 20 | 13 | 0.95 | 0.72 | 0.83 | 1.4 | 4.0 | 3.60 | 18 | 21 |
| | 25 | 14 | 1.12 | 0.69 | 0.80 | 1.7 | 4.3 | 4.24 | 18 | 20 |
| | 30 | 16 | 1.26 | 0.65 | 0.75 | 2.1 | 4.9 | 4.77 | 17 | 19 |
| | 35 | 16 | 1.35 | 0.64 | 0.74 | 2.4 | 4.9 | 5.11 | 16 | 19 |
| | 40 | 17 | 1.42 | 0.63 | 0.73 | 2.8 | 5.2 | 5.38 | 16 | 18 |
| | 45 | 17 | 1.51 | 0.64 | 0.73 | 3.1 | 5.2 | 5.72 | 16 | 18 |
| | 50 | 18 | 1.57 | 0.60 | 0.69 | 3.4 | 5.5 | 5.94 | 15 | 18 |
| | 55 | 18 | 1.62 | 0.60 | 0.69 | 3.8 | 5.5 | 6.13 | 15 | 18 |
| 180° Arc | 20 | 13 | 0.75 | 0.72 | 0.83 | 1.4 | 4.0 | 2.84 | 18 | 21 |
| | 25 | 14 | 0.83 | 0.69 | 0.80 | 1.7 | 4.3 | 3.14 | 18 | 20 |
| | 30 | 16 | 0.85 | 0.65 | 0.75 | 2.1 | 4.9 | 3.22 | 17 | 19 |
| | 35 | 16 | 0.91 | 0.64 | 0.74 | 2.4 | 4.9 | 3.44 | 16 | 19 |
| | 40 | 17 | 0.98 | 0.63 | 0.73 | 2.8 | 5.2 | 3.71 | 16 | 18 |
| | 45 | 17 | 1.01 | 0.64 | 0.73 | 3.1 | 5.2 | 3.82 | 16 | 18 |
| | 50 | 18 | 1.07 | 0.60 | 0.69 | 3.4 | 5.5 | 4.05 | 15 | 18 |
| | 55 | 18 | 1.09 | 0.60 | 0.69 | 3.8 | 5.5 | 4.13 | 15 | 18 |
| 90° Arc | 20 | 13 | 0.37 | 0.72 | 0.83 | 1.4 | 4.0 | 1.40 | 18 | 21 |
| | 25 | 14 | 0.39 | 0.69 | 0.80 | 1.7 | 4.3 | 1.48 | 18 | 20 |
| | 30 | 16 | 0.42 | 0.65 | 0.75 | 2.1 | 4.9 | 1.59 | 17 | 19 |
| | 35 | 16 | 0.47 | 0.64 | 0.74 | 2.4 | 4.9 | 1.78 | 16 | 19 |
| | 40 | 17 | 0.50 | 0.63 | 0.73 | 2.8 | 5.2 | 1.89 | 16 | 18 |
| | 45 | 17 | 0.50 | 0.64 | 0.73 | 3.1 | 5.2 | 1.89 | 16 | 18 |
| | 50 | 18 | 0.54 | 0.60 | 0.69 | 3.4 | 5.5 | 2.04 | 15 | 18 |
| | 55 | 18 | 0.58 | 0.60 | 0.69 | 3.8 | 5.5 | 2.20 | 15 | 18 |

## R-VAN1724 (YELLOW)

| | U.S. | | | | | METRIC | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ■ | ▲ | | | | ■ | ▲ |
| Arc | Pressure (psi) | Radius (ft) | Flow (gpm) | Precip (in/hr) | Precip (in/hr) | Pressure (bar) | Radius (m) | Flow (l/m) | Precip (mm/h) | Precip (mm/h) |
| 270° Arc | 20 | 17 | 1.77 | 0.76 | 0.88 | 1.4 | 5.2 | 6.70 | 19 | 22 |
| | 25 | 19 | 1.99 | 0.72 | 0.83 | 1.7 | 5.8 | 7.53 | 18 | 21 |
| | 30 | 21 | 2.26 | 0.70 | 0.81 | 2.1 | 6.4 | 8.56 | 18 | 21 |
| | 35 | 22 | 2.39 | 0.66 | 0.76 | 2.4 | 6.7 | 9.05 | 17 | 19 |
| | 40 | 23 | 2.55 | 0.63 | 0.73 | 2.8 | 7.0 | 9.65 | 16 | 18 |
| | 45 | 23 | 2.73 | 0.64 | 0.73 | 3.1 | 7.0 | 10.33 | 16 | 18 |
| | 50 | 24 | 2.76 | 0.61 | 0.70 | 3.4 | 7.3 | 10.45 | 15 | 18 |
| | 55 | 24 | 2.80 | 0.16 | 0.70 | 3.8 | 7.3 | 10.60 | 15 | 18 |
| 180° Arc | 20 | 17 | 1.24 | 0.76 | 0.88 | 1.4 | 5.2 | 4.69 | 19 | 22 |
| | 25 | 19 | 1.30 | 0.72 | 0.83 | 1.7 | 5.8 | 4.92 | 18 | 21 |
| | 30 | 21 | 1.41 | 0.70 | 0.81 | 2.1 | 6.4 | 5.34 | 18 | 21 |
| | 35 | 22 | 1.55 | 0.66 | 0.76 | 2.4 | 6.7 | 5.87 | 17 | 19 |
| | 40 | 23 | 1.69 | 0.63 | 0.73 | 2.8 | 7.0 | 6.40 | 16 | 18 |
| | 45 | 23 | 1.83 | 0.64 | 0.73 | 3.1 | 7.0 | 6.93 | 16 | 18 |
| | 50 | 24 | 1.91 | 0.61 | 0.70 | 3.4 | 7.3 | 7.23 | 15 | 18 |
| | 55 | 24 | 1.98 | 0.61 | 0.70 | 3.8 | 7.3 | 7.50 | 15 | 18 |
| 90° Arc | 20 | 17 | 0.59 | 0.76 | 0.88 | 1.4 | 5.2 | 2.23 | 19 | 22 |
| | 25 | 19 | 0.67 | 0.72 | 0.83 | 1.7 | 5.8 | 2.54 | 18 | 21 |
| | 30 | 21 | 0.73 | 0.70 | 0.81 | 2.1 | 6.4 | 2.76 | 18 | 21 |
| | 35 | 22 | 0.78 | 0.66 | 0.76 | 2.4 | 6.7 | 2.95 | 17 | 19 |
| | 40 | 23 | 0.85 | 0.63 | 0.73 | 2.8 | 7.0 | 3.22 | 16 | 18 |
| | 45 | 23 | 0.91 | 0.64 | 0.73 | 3.1 | 7.0 | 3.44 | 16 | 18 |
| | 50 | 24 | 0.98 | 0.61 | 0.70 | 3.4 | 7.3 | 3.71 | 15 | 18 |
| | 55 | 24 | 1.05 | 0.61 | 0.70 | 3.8 | 7.3 | 3.97 | 15 | 18 |

Note: Radius refers to recommended spacing to achieve optimal precipitation rate and distribution uniformity with head to head spacing. Performance data taken in zero wind conditions.

■ Square spacing based on 50% diameter of throw. ▲ Triangular spacing based on 50% diameter of throw.

## RWS (Root Watering Series)

Root watering system promotes deep root growth and healthy tree development.

- Deep root watering and aeration accelrates growth and ensures tree health.
- Subsurface aeration and irrigation prevents tree and shrub transplant shock.
- Highest efficiency solution for tree irrigation — up to 95% emission uniformity with minimal wind, evaporation, or edge control losses.

### FEATURES AND BENEFITS

- Aesthetically designed subsurface bubbler contributes to a landscape's natural appearance.
- Locking grate at grade deters vandals, protects the emission device and reduces risk of injury.
- Helps prevent shallow root growth and costly damage to hardscape.
- Self-contained and factory-assembled units for assured reliability.
- Variety of models available to accommodate design flexibility.

### For the RWS Model:

- 4" (10 cm) retaining cap and vandal-resistant locking grate tops a 36" (91 cm) semi-rigid mesh tube.
- Factory installed swing assemblies (exluding RWS) with a 1401 (0.25 gpm; 0.95 l/m), 1402 (0.5 gpm; 1.9 l/m), or 1404 (1.00 gpm; 3.8 l/m) bubbler on a fixed riser makes connecting to lateral lines easy.
- Optional check valve included to keep the lines from draining.
- Optional sand sock is ideal for use in sandy soil.

### For the RWS-Mini:

- 4" (10.2 cm) retaining cap and vandal resistant locking grate tops a 18" (46 cm) semi-rigid mesh tube.
- Factory-installed ½" (1 cm) spiral barb elbow with a 1401 or 1402 bubbler makes connecting to lateral lines easy.
- Optional check valve included to keep the lines from draining.
- Optional sand sock is ideal for use in sandy soil.

### For the RWS-Supplemental:

- 2" (5.1 cm) snap-on cap and base cap enclose a 10" (25 cm) semi-rigid mesh tube.
- Factory installed ½" (1 cm) spiral barb elbow with 1401 bubbler makes connecting to lateral lines easy.
- Optional check valve included to keep the lines from draining.
- Perfect for shrubs.


● Root Watering System

### HOW TO SPECIFY

**RWS – X – X – X – XXXX**

- **Model** RWS
- **Other Size** M = Mini, S = Supplemental
- **Bubbler** B = Bubbler pre-installed
- **Optional** C = Check Valve
- **Bubbler Model** 1401, 1402, 1404

**RWS-Sock**

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

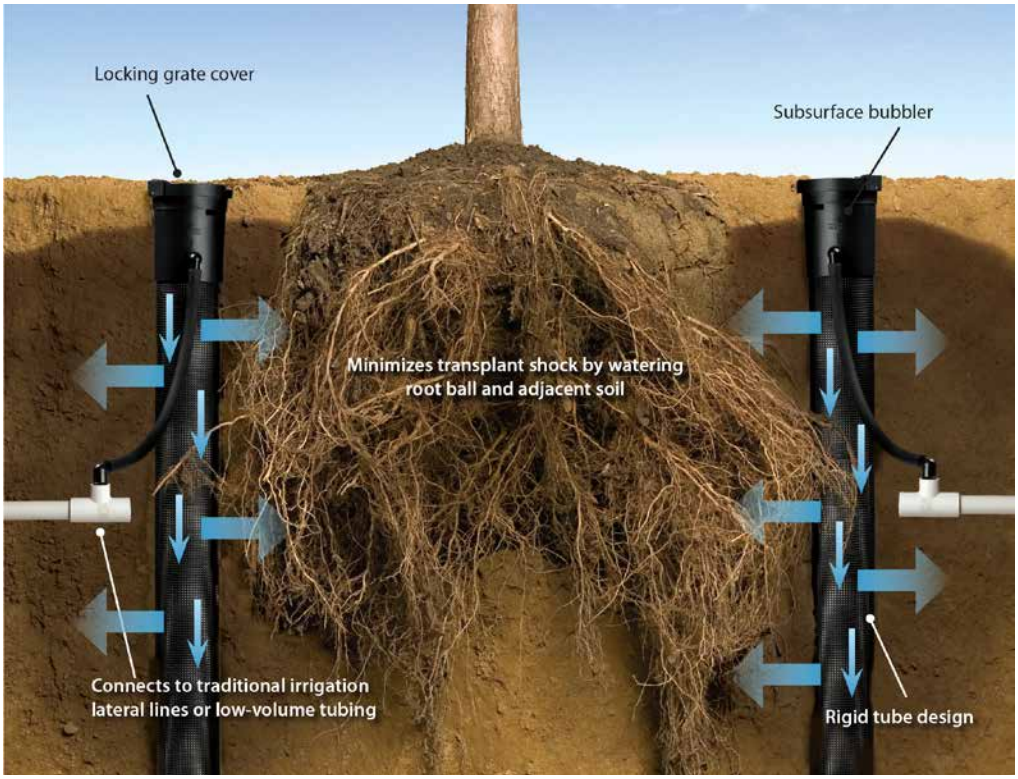
*RWS integrated collar and locking grate retainer.*

## DIMENSIONS

- **Root Watering:** 4" (10 cm) diameter x 36" (91 cm) length
- **Root Watering-Mini:** 4" (10 cm) diameter x 18" (46 cm) length
- **Root Watering-Supplemental:** 2" (5 cm) diameter x 10" (25 cm) length

## RWS MODELS/SPECIFICATIONS

| MODEL | BUBBLER | CHECK VALVE | SWING ASSEMBLY with ½" (1.3 cm) (15/21) M NPT Inlet | SPIRAL BARB ELBOW with ½" (1.3 cm) (15/21) M NPT inlet |
|---|---|---|---|---|
| **ROOT WATERING** (36" (91 cm) length with 4" (10 cm) vandal-resistant locking grate) | | | | |
| RWS-B-C-1401 | 0.25 gpm (0.95 lpm) | Yes | Yes | – |
| RWS-B-1401 | 0.25 gpm (0.95 lpm) | – | Yes | – |
| RWS-B-X-1401 | 0.25 gpm (0.95 lpm) | – | Yes (18") | – |
| RWS-B-C-1402 | 0.50 gpm (1.90 lpm) | Yes | Yes | – |
| RWS-B-1402 | 0.50 gpm (1.90 lpm) | – | Yes | – |
| RWS-B-C-1404 | 1.00 gpm (3.80 lpm) | Yes | Yes | – |
| **ROOT WATERING-MINI** (18" (46 cm) length with 4" (10 cm) vandal-resistant locking grate) | | | | |
| RWS-M-B-C-1041 | 0.25 gpm (0.95 lpm) | Yes | – | Yes |
| RWS-M-B-1401 | 0.25 gpm (0.95 lpm) | – | – | Yes |
| RWS-M-B-C-1402 | 0.50 gpm (1.90 lpm) | Yes | – | Yes |
| RWS-M-B-1402 | 0.50 gpm (1.90 lpm) | – | – | Yes |
| **ROOT WATERING-SUPPLEMENTAL** (10" (25 cm) length with 2" (5 cm) snap-on cap and base) | | | | |
| RWS-S-B-C-1401 | 0.25 gpm (0.95 lpm) | Yes | – | Yes |
| RWS-S-B-1401 | 0.25 gpm (0.95 lpm) | – | – | Yes |
| **ROOT WATERING-ACCESSORIES** | | | | |
| RWS-SOCK (Root Watering Sand Sock) (6 per bag) | | | | |
| WS-GRATE-P (Root Watering Series Purple Grate for RWS and RWS Mini) | | | | |



# XFS Copper-Colored Sub-Surface Dripline with Copper Shield™ Technology

Rain Bird's patent-pending XFS sub-surface dripline with Copper Shield™ Technology protects the emitter from root intrusion, creating a long-lasting, low maintenance sub-surface drip irrigation system for use under turf grass all shrub and groundcover areas.

Ideal for small, narrow and tight planting areas near clubhouses, parking lot mediums, walkways and cart paths, bunker facings and under turf grass. Also perfect for installation on greens and driving ranges.

Accepts Rain Bird Easy Fit Compression Fittings, XFF Dripline Barbed Insert Fittings and other 17 mm barbed insert fittings.

## FEATURES

### Simple

- Rain Bird's low-profile emitter design reduces in-line pressure loss, allowing longer lateral runs, simplifying design and reducing installation time.
- Variety of emitter flow rates, emitter spacing and coil lengths provide maximum design flexibility for either sub-surface turf, or on-surface shrub and groundcover applications.

### Reliable

- XFS sub-surface dripline emitters are protected from root intrusion by Rain Bird's patent-pending Copper Shield Technology resulting in a system that does not require maintenance or replacement of chemicals to prevent root intrusion.
- The pressure-compensating emitter design provides a consistent flow over the entire lateral length ensuring higher uniformity for increased reliability in the pressure range of 8.5 to 60 psi.

### Durable

- Dual-layered tubing (copper over black) provides unmatched resistance to chemicals, algae growth and UV damage.
- Grit Tolerant: Rain Bird's proprietary emitter design resists clogging by use of an extra-wide flow path combined with a self-flushing action.

## OPERATING RANGE

**Pressure:** 8.5 to 60 psi (0.58 to 4.14 bar)

**Flow rates:** 0.6 and 0.9 gph (2.3 l/hr and 3.5 l/hr)

**Temperature:**

**Water:** Up to 100°F (37.8° C)

**Ambient:** Up to 125°F (51.7° C)

**Required Filtration:** 120 mesh

## SPECIFICATIONS

**Dimensions:**

**OD:** 0.634" (16mm)

**ID:** 0.536" (13.6mm)

**Thickness:** 0.049" (1.2mm)

**Spacing:** 12", 18", 24" (30.5 cm, 45.7 cm, 61.0 cm)

**Coils:** 100' and 500' (30.5 m and 152.4 m)

**Coil Color:** Copper

*XFS Dripline offers increased flexibility for easy installation*


● XFS Sub-Surface Dripline

## HOW TO SPECIFY

**XFS – X – XX – XX – XXX**

**Model**
XFS
Sub-Surface
Dripline

**Optional**
P = Purple
over black

**Flow Rate**
06 = 0.61 gph (2.1 l/h)
09 = 0.92 gph (3.5 l/h)

**Emitter Spacing**
12 = 12" (30.5 cm)
18 = 18" (45.7 cm)
24 = 24" (61.0 cm)

**Tubing Length**
100 = 100' (30.5 m)
500 = 500' (152.4 m)

# Large-Capacity Filters

Large capacity and low maintenance with a solid build

- High flow rate disc filtration units are ideal for use with ponds and other water features
- Provides extra large filtration capacity for residential, commercial, and municipal applications
- Durable filters can be easily removed for cleaning, significantly reducing cleaning time

## FEATURES

- Disc filters can decompress for easy cleaning
- Available with 120 mesh Stainless Steel Screen Filters or 120 mesh disc filters
- Auxiliary connection with a threaded cap can be drilled to allow draining or depressurization
- Larger filters for higher flow and lower maintenance

## OPERATING RANGE

**1" Model:**

**Maximum Flow:** Up to 26 gpm (6 m3/hr)

**Filtering Surface (disc):** 28 in² (180cm²)

**1.5" Models:**

**Maximum Flow:** Up to 88 gpm (20 m³/hr)

**Filtering Surface (disc):** 83 in² (535 cm²)

**Filtering Surface (screen):** 76 in² (490 cm²)

**2" Models:**

**Maximum Flow:** Up to 110 gpm (25 m³/hr)

**Filtering Surface (disc):** 81 in² (525 cm²)

**Filtering Surface (screen):** 75 in² (485 cm²)

**Maximum Pressure:** 116 psi (8 bar)

**Maximum Temperature:** Up to 140° F (60° C)

## MODELS

**LCRBY100D:** 1" large-capacity disc filter

**LCRBY150S:** 1.5" large-capacity screen filter

**LCRBY150D:** 1.5 large-capacity disc filter

**LCRBY200S:** 2" large-capacity screen filter

**LCRBY200D:** 2" large-capacity disc filter

## SPARE PARTS

- **SMFC120MS:** ¾" – 1" SCRN CART LG CAP 120M
- **SMFC120MD:** ¾" – 1" DISC CART LG CAP 120M
- **LGFC120MS: 1 ½"** – 2" SCRN CRT LG CAP 120M
- **LGFC120MD: 1 ½"** – 2" DISC CRT LG CAP 120M

NEW

● **LCRBY200D**

## SPECIFICATIONS

**Inlet / Outlet Size:**

**1" Models:** 1" NPT

**1.5" Models:** 1.5" NPT

**2" Models:** 2" NPT

## FILTRATION

- Screen Filter*: 120 Mesh (130 Micron)
- Plastic Filter Discs: 120 Mesh (130 Micron)

**Screen Filter:**
The 120 mesh screen filters are easy to clean and provide reliable filtration.

**Plastic Filter Discs:**
These filters are made up of over a hundred grooved discs that allow water to pass while trapping debris. Less maintenance required due to large surface area.

**Disc and Screen Filters**

** Screen not available in 1" model*

LANDSCAPE SOLUTIONS

## PRESSURE LOSS CHARACTERISTICS — DISC FILTER

| U.S. | | | | METRIC | | | |
|---|---|---|---|---|---|---|---|
| Flow (gpm) | 1" Filter (psi) | 1.5" Filter (psi) | 2" Filter (psi) | Flow (l/m) | 2.5 cm Filter (bar) | 3.8 cm Filter (bar) | 5.1 cm Filter (bar) |
| 5 | 0.60 | 0.08 | 0.10 | 18.93 | 0.04 | 0.01 | 0.01 |
| 11 | 1.16 | 0.18 | 0.10 | 41.67 | 0.08 | 0.01 | 0.01 |
| 22 | 2.61 | 0.40 | 0.10 | 83.33 | 0.18 | 0.03 | 0.01 |
| 33 | 4.35 | 0.73 | 0.24 | 125.00 | 0.30 | 0.05 | 0.02 |
| 44 | – | 1.05 | 0.40 | 166.67 | – | 0.07 | 0.03 |
| 55 | – | 1.50 | 0.60 | 208.33 | – | 0.10 | 0.04 |
| 66 | – | 2.18 | 0.82 | 250.00 | – | 0.15 | 0.06 |
| 77 | – | 3.10 | 1.10 | 291.67 | – | 0.21 | 0.08 |
| 88 | – | 3.95 | 1.60 | 333.33 | – | 0.27 | 0.11 |
| 99 | – | – | 2.03 | 375.00 | – | – | 0.14 |
| 110 | – | – | 2.47 | 416.67 | – | – | 0.17 |

Disc Filter

## PRESSURE LOSS CHARACTERISTICS — SCREEN FILTER

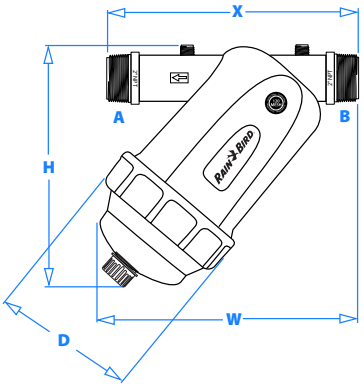
| U.S. | | | | METRIC | | | |
|---|---|---|---|---|---|---|---|
| Flow (gpm) | 1" Filter (psi) | 1.5" Filter (psi) | 2" Filter (psi) | Flow (l/m) | 2.5 cm Filter (bar) | 3.8 cm Filter (bar) | 5.1 cm Filter (bar) |
| 5 | 0.80 | 0.00 | 0.00 | 18.93 | 0.06 | 0.00 | 0.00 |
| 11 | 1.74 | 0.00 | 0.00 | 41.67 | 0.12 | 0.00 | 0.00 |
| 22 | 2.90 | 0.50 | 0.20 | 83.33 | 0.20 | 0.03 | 0.01 |
| 33 | 4.06 | 0.95 | 0.25 | 125.00 | 0.28 | 0.07 | 0.02 |
| 44 | – | 1.45 | 0.44 | 166.67 | – | 0.10 | 0.03 |
| 55 | 1.89 | 0.60 | 0.60 | 208.33 | – | 0.13 | 0.04 |
| 66 | – | 2.32 | 0.87 | 250.00 | – | 0.16 | 0.06 |
| 77 | – | 2.76 | 1.16 | 291.67 | – | 0.19 | 0.08 |
| 88 | – | 3.19 | 1.45 | 333.33 | – | 0.22 | 0.10 |
| 99 | – | – | 1.89 | 375.00 | – | – | 0.13 |
| 110 | – | – | 2.32 | 416.67 | – | – | 0.16 |

Screen Filter

## FILTER HOUSING DIMENSIONS

| Model | A, B | H | W | X | D |
|---|---|---|---|---|---|
| 1" (2.5 cm) | 1" NPT | 6.81" | 7.48" | 6.22" | 3.27" |
| 1.5" (2.5 cm) | 1.5" NPT | 9.53" | 10.25" | 9.92" | 5.67" |
| 2" (5.1 cm) | 2" NPT | 9.76" | 10.63" | 10.51" | 5.67" |

*Letters correspond to diagram on right.*



## VB Series Valve Boxes

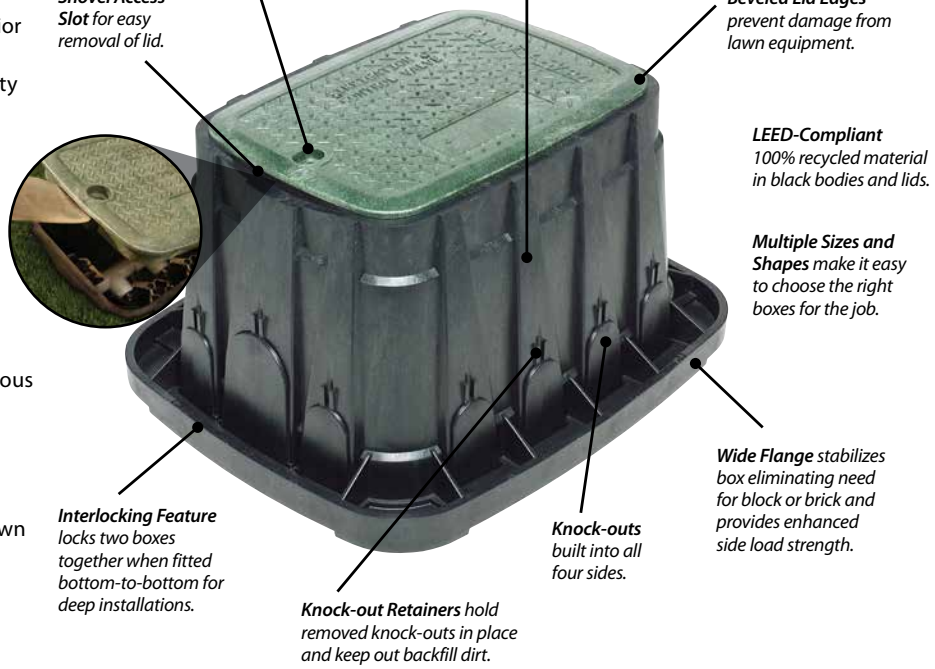
A rich set of industry-leading features that ensure strength, durability and fast installations save you time, money and reduce the need for unscheduled service calls.

- Wide flange with corrugated structure provides superior box strength for better valve protection.
- Unique shovel access slot provides superior accessibility for service.
- Earth-friendly LEED-compliant material made of 100% recycled materials (black boxes and black lids only).
- Unique pipe hole knockout provides faster and easier installation.

### FEATURES AND BENEFITS

These features apply to the Standard, Jumbo, Super Jumbo, Maxi Jumbo, and 7" and 10" Round Valve Boxes:

- Unique bolt hole knock-out design in lid keeps hazardous insects and pests out of the box.
- Shovel access on body allows for easy lid removal.
- Knock-out retainers securely hold removed knock-outs above the pipe, keeping 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.




*A variety of valve box sizes and shapes make it easy to choose the right box for the job. Black body and black lids made of 100% recycled materials.*

## DIMENSIONS AND ACCOMMODATIONS

| |  7" ROUND SERIES (VB-7RND) |  10" ROUND SERIES (VB-10RND) |  STANDARD RECTANGULAR SERIES (VB-STD) |  JUMBO RECTANGULAR SERIES (VB-JMB) |  SUPER JUMBO RECTANGULAR SERIES (VB-SPR) |  MAXI JUMBO RECTANGULAR SERIES (VB-MAX) |
|---|---|---|---|---|---|---|
| EXTERNAL DIMENSIONS | 6.4" Top Diam x 9.0" H x 9.8" Bottom Diam (16.3 cm x 22.9 cm x 24.9 cm) | 10.25" Top Diam x 10.0" H x 13.75" Bottom Diam (26.0 cm x 25.4 cm x 34.9 cm) | 21.8" L x 16.6" W x 12.0" H (55.4 cm x 42.2 cm x 30.5 cm) | 26.3" L x 19.8" W x 12.1" H (66.8 cm x 50.3 cm x 30.7 cm) | 31.1" L x 23.8" W x 15.0" H (84.1 cm x 60.5 cm x 38.1 cm) | 40.3" L x 27.1" W x 18.0" H (102.4 cm x 68.8 cm x 45.7 cm) |
| ACCOMMODATIONS | Four equally spaced knock-outs accommodate up to a 2" (5.0 cm) diameter pipe. | Four equally spaced knock-outs accommodate up to a 2" (5.0 cm) diameter pipe. (Extension does not have knock-outs.) | Two large center knock-outs accommodate up to a 3 ½" (8.9 cm) diameter pipe and twelve knock-outs accommodate up to 2" (5.0 cm) diameter pipe. | Two large center knock-outs accommodate up to a 3 ½" (8.9 cm) diameter pipe. | Sixteen knock-outs accommodate up to a 3 ½" (8.9 cm) diameter pipe. Includes two stainless steel bolts and clips to securely fasten the lid to the body. | Sixteen knock-outs accommodate up to a 3 ½" (8.9 cm) diameter pipe. Includes two stainless steel bolts and clips to securely fasten the lid to the body. |

| |  STANDARD 6" (VB-STD-6EXT) |  JUMBO 6" (VB-JMB-6EXT) |
|---|---|---|
| VALVE BOX EXTENSIONS | | |
| EXTERNAL DIMENSIONS | 20.0" L x 14.75" W x 6.75" H (50.8 cm x 37.5 cm x 17.1 cm) | 24.4" L x 17.9" W x 6.75" H (62.0 cm x 45.5 cm x 17.1 cm) |

VALVE BOX LIDS

Green – Traditional Soils
Purple – Non-potable Water
Black – Recyclable Material

INTERLOCKING BOTTOMS

Patented feature for deep installations.
All boxes mate securely together.