

# Signature<sup>®</sup>

CONTROL SYSTEMS, INC.

Intelligence

Information

# Irrigation

## PRODUCTS & TECHNICAL INFORMATION

- CONTROLLERS
- SATELLITES
- CENTRAL CONTROLS
- ROTORS
- SPRAYS
- AGRICULTURAL SPRINKLERS
- VALVES
- SENSORS

[www.SignatureControlSystems.com](http://www.SignatureControlSystems.com)

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## **Signature Control Systems**

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**has maintained a continuous presence in the golf and turf irrigation industry since our beginnings in 1907.**

**From manufacturing spray-heads to large golf rotors and residential controllers to today's most sophisticated irrigation control systems, we hope that you find this catalog demonstrative of what Signature<sup>®</sup> can provide for your irrigation system.**

## OVERVIEW

Signature Control Systems, Inc. can trace its roots in the irrigation industry to humble beginnings over 100 years ago. Since then, Signature® has been dedicated to providing the highest-quality products and services in the landscape and irrigation industry.

Signature® is an industry leader in the design and manufacture of turf management systems including intelligent irrigation controllers, site management software, irrigation valves, gear-drive rotors & spray-head products. Thus providing landscape managers, golf course superintendents, as well as property managers' direct control of their irrigation system, water and energy resources.

To achieve these goals Signature® continues to invest in research and development of new products, product line expansion and manufacturing facilities. We continue to increase our manufacturing capacity of our products in our own factory in the USA and are proud to bring to market a full basket of Professional Irrigation products servicing all industry segments and end users of irrigation products. Whether Installer, Designer, Distributor or End User you will find Signature® can meet and exceed your irrigation requirements.

In recent years, we have successfully staked a claim as an innovative creator of central control systems that range from the basic to the most complex. Today we have expanded controller ranges and with imminent water management legislation you will find Signature's own intellectual property is well positioned to meet and exceed this legislation. Further and when appropriate, we have and continue to invest in acquisitions that increase our product breadth and depth. As a result of several acquisitions, Signature® is now a full line manufacturer and supplier to the Irrigation Industry with products that will cover any installation requirement. We are sure that you will be familiar with many of the products you see listed in our catalog and invite you to look at them with the new understanding that Signature® will be supplying the Irrigation Industry for many years to come with innovative solutions.



**Brian J. Smith**  
President and CEO

## BACKGROUND

You may think that Signature® is a fairly new name in the irrigation industry... we are not. We can trace our roots in the irrigation industry to 1907 when we started out as the Thompson Manufacturing Co.

Through a series of strategic acquisitions and manufacturing expansion initiatives, Signature® provides a complete array of products and via our channel partners, distributes a complete line of irrigation equipment: battery operated controllers, residential and commercial controllers, golf satellite controllers, central control systems, gear drive rotors, spray head sprinklers, impact sprinklers, control valves, quick coupling valves and moisture sensors.

Signature® is known as a nimble company that can adapt to the changing economies of the world or regional market influences, and is a company driven by several guiding lights that keep us on track to achieve our most important goal—satisfying our customer.

To that end we are market driven, we listen to our customers and make sure any product or service we deliver meets their needs, not just ours.

Signature's designs are highly respected in the industry and with the emergence of our new design concepts and products, Signature® will certainly play a major role in the future of the irrigation industry.

## MAJOR PRODUCT LINES:

Some of the names you may recognize:

### **Signature Share™**

Web based irrigation controllers

### **Constellation® Galaxy™ & eConstellation®**

Commercial irrigation satellite control systems

### **EZ Pro™**

Wall Mount residential & commercial style controllers

### **Aurora® & eAurora®**

Golf course irrigation satellite control systems

### **SoloRain®**

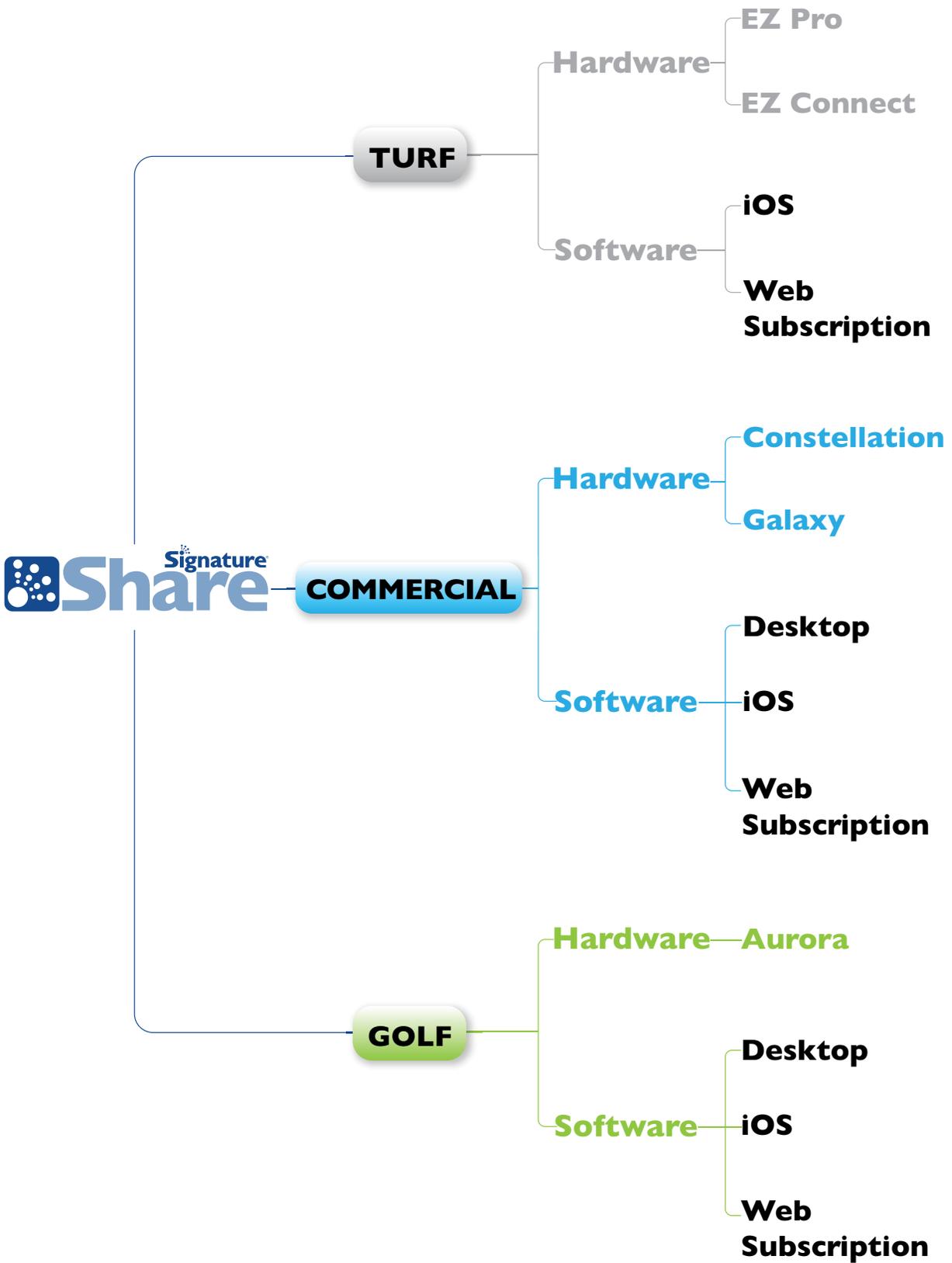
Battery operated controllers "No Power ... No Problem"®,

The Aurora®, Constellation®, and Galaxy™ range of irrigation products are industry recognized as the latest technology in cost effective irrigation. In addition, Signature® has a comprehensive range of commercial and large turf rotors and valves.

Signature® provides management systems in hardwire, radio and telephone configurations including weather station equipment. All Signature Control Systems' products are compatible for both domestic and international markets.



# **Signature** **Share**



# CONTROLLERS



## BATTERY OPERATED CONTROLLERS

APPLICATIONS	SoloRain®			
	8010	8014	8014SR	8014BT
Residential Applications	✓	✓	✓	✓
Commercial Applications	✓	✓	✓	✓
Sports Turf Applications	✓	✓	✓	✓
Golf Course Applications	✓	✓	✓	✓
Retrofit Older Systems	✓	✓	✓	✓
Isolated Locations Without Power	✓	✓	✓	✓
<b>FEATURES</b>				
Bluetooth				✓
Single Zone	✓	✓	✓	✓
Multi Zone				
Programs	1	6	6	6
Network Ready				
9V Alkaline Battery	✓			
3.6V Lithium Battery		✓	✓	
1.5 AA battery (x2)				✓
Sensor Ready			✓	✓

APPLICATIONS	SoloRain®		
	8024	8028	8030
Residential Applications	✓	✓	✓
Commercial Applications	✓	✓	✓
Sports Turf Applications	✓	✓	✓
Golf Course Applications	✓	✓	✓
Retrofit Older Systems	✓	✓	✓
Isolated Locations Without Power	✓	✓	✓
<b>FEATURES</b>			
Single Zone			✓
Multi Zone	4	4	
Programs	3		16
Network Ready		✓	
9V Alkaline Battery			✓
3.6V Lithium Battery			
1.5 AA Battery (x2)	✓	✓	
Sensor Ready	✓	✓	

# PRODUCT OVERVIEW

## BATTERY OPERATED CONTROLLERS

### SoloRain® 8010



- Single zone valve mounted battery operated controller.
- Single Program
- Operates on one replaceable 9 volt battery for over one year depending on usage.
- Waterproof design tested to IP68, 6 ft (1,8m)
- Installs directly on all Signature® Turf valves and can be fitted to many other valves through the use of adapters.
- Includes three dials for easy programming and flexible programming features.
- 8010 can be purchased mounted on a 7900 series valve (8012).

### SoloRain® 8014



- Single zone valve mounted battery operated controller.
- 6 Programs
- Operates on one replaceable 3.6 volt lithium battery for several years depending on usage.
- Waterproof design tested to IP68, 6 ft (1,8m)
- Valve adaptors are available for the majority of competitor valve types.
- Compatible with all Signature® valves and can be purchased already mounted to the valve.
- Smart logic provides for current savings giving batteries longer life spans.

### SoloRain® 8014-SR



- Single zone valve mounted battery operated controller.
- 6 Programs
- Operates on one replaceable 3.6 volt lithium battery for several years depending on usage.
- Waterproof design tested to IP68, 6 ft (1,8m)
- Valve adaptors are available for the majority of competitor valve types.
- Sensor ready for connection to any normally closed, rain, soil moisture, freeze or wind sensors.
- Compatible with all Signature® valves and can be purchased already mounted to the valve.

**SoloRain®  
8014-BT**



- Wirelessly connects an irrigation valve to external Bluetooth® devices such as smartphone's with Bluetooth®.
- Compatible with Signature Share™ App's for convenient programming and control. Single zone valve mounted battery operated controller.
- 6 Programs
- Operates on two replaceable 1.5 volt AA style batteries for in excess of one year depending on usage.
- Waterproof design tested to IP68, 6 ft (1,8m)
- Valve adaptors are available for the majority of competitor valve types.
- 8017-BT is sensor ready for connection to any normally closed, rain, soil moisture, freeze or wind sensors.
- Compatible with all Signature® valves and can be purchased already mounted to the valve.
- 8017-BT is upgradable to Signature Share™ Web accessed control via module upgrade.

**SoloRain® 8024C**



- 4 zones, valve box mounted, battery operated controller.
- 3 Programs
- Operates on two AA batteries for several years depending on usage.
- Waterproof design tested to IP68, 6 ft (1,8m)
- Works with most manufacture 9V or 12V DC solenoid
- Can have up to 250 ft (76 m) of 18 AWG direct burial wire between the 8020 series controller and the DC solenoid.
- Accommodate normally closed rain, freeze or event sensors.

**SoloRain® 8030**



- Single zone, remote programmable, valve mounted battery operated controller.
- 16 Programs
- Operates on one replaceable 9 volt battery for over one year depending on usage.
- Waterproof design tested to IP68, 6 ft (1,8m)
- Programming is accomplished through the 8071 handheld programmer which can be used on unlimited 8030 actuators. The built in memory in the 8071 allows storage of up to 36 different programs.
- Installs directly on to all Signature® Turf valves and can be fitted to many other valves through the use of adapters.
- 8030 can be purchased mounted on a 7900 series valve (8032).

**\* SCS Share Website System Requirements**

**Supported Browsers (JavaScript Enabled):**

- Internet Explorer 9+
- Mozilla Firefox 24+
- Google Chrome 30+
- Safari 5+

**Other Requirements:**

- Adobe Flash Player
- Best viewed at 1024 x 768 or higher resolution



# BATTERY OPERATED CONTROLLERS

## SoloRain®

### 8010

Programmable Actuator

### 8012

Programmable Actuator with 7901 Valve



## FEATURES

### SoloRain® 8010 Series:

- FITS ALL SIGNATURE® TURF VALVES
- Compatible with most valves via adapters
- Single program stand-alone unit includes three dials for easy programming
- Waterproof design in both the programmable actuator and the battery compartment - IP68 tested
- Solenoid and battery compartment are compact and made of durable nylon with protective cover included
- Operates on a single 9 volt Energizer® alkaline battery for one year depending on usage (not included)
- Latching solenoid design uses minimal battery consumption
- Resistant to the hazards of lightning and power surges commonly seen in AC systems
- Programmable clock for real time operation
- Automatic watering up to two times per day
- Watering times from 1-2 minute to 5½ hours
- Manual ON and OFF

## SPECIFICATIONS

### DIMENSIONS (H X W X D)

4½" (11,5 cm) x 2¾" (7 cm) x 1¾" (4,5 cm)

### ELECTRICAL:

One 9V Alkaline Battery (not included)

### CERTIFICATIONS:

FC Part 15 Class B compliant



Enclosure Material: Plastic  
Enclosure Type: Outdoor  
Enclosure Rating: IP68\*

\* Self Certified

## VALVE COMPATIBILITY CHART

### 8010/8030/8090DC

#### Adapter Kit #77440:

SIGNATURE 9001,9003,9002,9011,9013,9012,  
7901,7916,7911,7917,9501,9501FC,  
9502,9515NC,9520NC, 9515BC,9520BC,

#### Adapter Kit #77422:

<b>TORO:</b>	<b>BERMAD</b>
252 (1.5" 2"),220	1"
<b>IRRITROL:</b>	<b>DOROT</b>
2400,2600,2500,2700,	1"
311,2623,300,700,100,	<b>GALCON</b>
216,623DPR	1"
<b>K-RAIN</b>	<b>GRISWOLD</b>
7001,7200	1"

#### Adapter Kit #77423:

TORO: EZ FLOW,TPV

#### Adapter Kit #77424:

RAIN BIRD:  
DV,DVF,ASVF,JTV,JTVF,PGA,PEB,PESB,GBR,EFB,BPE,BPES

#### Used without an adapter kit:

HIT: 100,200,300,500,800,8400

**SoloRain®**

**8014**

DuraLife® Valve Actuator

**8014SR**

DuraLife® Valve Actuator with Sensor Ready

**8013E**

DuraLife® Valve Actuator with 1" (25,4 mm) 9003 valve

**8015 (8015E)**

DuraLife® Valve Actuator with 1" (25,4 mm) 7901/7916 valve

**8016E**

DuraLife® Valve Actuator with 1" (25,4 mm) 9501 valve



**SPECIFICATIONS**

**DIMENSIONS (H X W X D)**

8014, 8014SR: 5½" (14 cm) x 3½" (9 cm)  
 8013E: 7¾" (18,8 cm) x 5" (12,7 cm) x 3" (7,6 cm)  
 8015, 8015E: 7½" (19 cm) x 4" (10,2 cm) x 3½" (8,9 cm)  
 8016E: 8⅛" (20,6 cm) x 5½" (14 cm) x 3½" (9 cm)

**ELECTRICAL:**

Factory installed 3.6 V Lithium Battery

**CERTIFICATIONS:**

FC Part 15 Class B compliant



Enclosure Material: Plastic  
 Enclosure Type: Outdoor  
 Enclosure Rating: IP68\*

\* Self Certified

**FEATURES**

**SoloRain®**

**8014 Series:**

- FITS ALL SIGNATURE® TURF VALVES
- Long life factory installed lithium battery\*. Actual battery life will depend on the number of cycles run per year, valve size, operating pressure, and temperature. The battery is replaceable and is available as a service part.
- LCD displays clock and programming
- Timed manual ON and OFF
- Length of watering time: 1 minute to 12 hours
- Six watering programs available per day
- Mist Cycle available on all 6 programs
- Days of the week, Odd/Even, and Interval scheduling
- Rain Delay is programmable from 1 to 99 days
- Leap year compatible-automatically includes Feb. 29th every four years
- Waterproof design tested to IP68, 6 ft (1,8m)

**8014SR**

- Two wires on the "SR" version allows any normally open/normally closed sensor to be hooked up to it (switch has to be closed for the 8014 to operate). Sensors can be up to 25 ft (7,5 m) away.

**VALVE COMPATIBILITY CHART**

**SoloRain® 8014 and 8020 DC ADAPTERS\* Model 77467**

ALL HARDIE/IRRITROL VALVES

SIGNATURE:

7937, 7987, 7938, 7988, 7904, 7914, 7925, 7927, 7928, 7937, 7938, 7987, 7988,

TORO: EZ FLOW, TPV

K-RAIN: 7001, 7200, 7200

**Model 77468**

RAINBIRD:

PEB, DV, DVF, ASVF, EFB, GB, PGA, PESB, BPE, BPES

**Model 77481**

WEATHERMATIC:

ALL WEATHERMATIC VALVES

**Model 77516**

HUNTER:

ALL HUNTER VALVES

**Model 77526**

TORO:

252 (1.5" -2"), 220

\* Sold separately. No adapter required on the following Signature Valves: 7901, 7911, 7916, 7917, 9001, 9002, 9003, 9011, 9012, 9013, 9501, 9501FC, 9502, 9515BC, 9515NC, 9520BC, 9520NC. This is a partial list; please contact Signature for further details.

\* Battery life will vary depending on environmental conditions. Test results have shown 2 - 3 years of battery life

# BATTERY OPERATED CONTROLLERS

## SoloRain®

### 8014-BT

Valve Actuator with BlueTooth™



Signature's commitment to technology leadership is demonstrated in a valve actuator with available Bluetooth® option that permits a user to manually control a valve or download irrigation programs via a standard low-power wireless communication path to an irrigation valve.

## FEATURES

### SoloRain® 8014-BT

- FITS ALL SIGNATURE® TURF VALVES
- Wirelessly connects an irrigation valve to external Bluetooth® devices such as smartphone's with Bluetooth®.
- Compatible with Signature Share™ App's for convenient programming and control.
- Bluetooth communication is accessible up to 10 meters (~30 ft.) from the actuator in all directions, and the ability to enable the Bluetooth communication link is password protected.
- Reliable communications via Frequency Hopping Spread Spectrum (FHSS), enables a reliable communication link, designed for most field installation environments.
- Standard programming functionality.
- Timed manual ON and OFF
- Length of watering time: 1 minute to 12 hours
- Six watering programs available per day
- Mist Cycle available on all 6 programs
- Days of the week, Odd/Even, and Interval scheduling
- Rain Delay is programmable from 1 to 99 days
- Leap year compatible-automatically includes Feb. 29th every four years
- Battery powered with two (2) AA standard-style batteries. Battery life is dependent on operational cycles per year, valve size, operating pressure, and temperature.
- Waterproof design tested to IP68, 6 ft (1.8m)

## SPECIFICATIONS

### DIMENSIONS (H X W X D)

8014-BT: 6" (15 cm) x 3.6" (9 cm)

### ELECTRICAL:

Factory installed dual AA battery's

### CERTIFICATIONS:



Part 15 Class B compliant



Enclosure Material: Plastic  
Enclosure Type: Outdoor  
Enclosure Rating: IP68\*

\* Self Certified

## VALVE COMPATIBILITY CHART

### SoloRain® 8014, 8017 & 8020 DC ADAPTERS\* Model 77467

ALL HARDIE/IRRITROL VALVES  
SIGNATURE:  
7937, 7987, 7938, 7988, 7904, 7914, 7925, 7927,  
7928, 7937, 7938, 7987, 7988,  
TORO: EZ FLOW, TPV  
K-RAIN: 7001, 7200, 7200

### Model 77468

RAINBIRD:  
PEB, DV, DVF, ASVF, EFB, GB, PGA, PESB, BPE, BPES

### Model 77481

WEATHERMATIC:  
ALL WEATHERMATIC VALVES

### Model 77516

HUNTER:  
ALL HUNTER VALVES

### Model 77526

TORO:  
252 (1.5" -2"), 220

\* Sold separately. No adapter required on the following Signature Valves:  
7901, 7911, 7916, 7917, 9001, 9002, 9003, 9011, 9012, 9013, 9501,  
9501FC, 9502, 9515BC, 9515NC, 9520BC, 9520NC.  
This is a partial list; please contact Signature for further details.

\* Battery Life will vary depending on environmental conditions and usage. Test results have shown 2-3 years of battery life.



## SoloRain® Controllers

### 8024C

4 zone controller only

### 8020DC

Latching Solenoid  
(12VDC 7/8" - 24 threads)

### 8090DC

Latching Solenoid  
(9VDC 3/4" - 20 threads)

## Accessories

### 8020P

8020 Series Mounting Plate

### 8020S

8020 Series Mounting Stake

### 8020GC

8020 Series Waterproof Connectors



## SPECIFICATIONS

### DIMENSIONS (H X W X D)

4¼" (10,8 cm) x 3¼" (8,25 cm)

### ELECTRICAL:

Two AA Alkaline Batteries (not included)

### CERTIFICATIONS:



Part 15 Class B compliant



Enclosure Material: Plastic  
Enclosure Type: Outdoor  
Enclosure Rating: IP68\*

\* Self Certified

## VALVE COMPATIBILITY CHART

### 8010/8030/8090DC Adapter Kit #77440:

SIGNATURE 9001,9003,9002,9011,9013,9012,  
7901,7916,7911,7917,9501,9501FC,  
9502,9515NC,9520NC,9515BC,9520BC,

### Adapter Kit #77422:

TORO:	BERMAD
252 (1.5" - 2"),220	1"
IRRITROL:	DOROT
2400,2600,2500,2700,	1"
311,2623,300,700,100,	GALCON
216,623DPR	1"
K-RAIN:	GRISWOLD
7001,7200	1"

### Adapter Kit #77423:

TORO: EZ FLOW,TPV

### Adapter Kit #77424:

RAIN BIRD:  
DV,DVF,ASVF,JT,VJTVF,PGA,PEB,PESB,GBR,EFB,BPE,BPES

### Used without an adapter kit:

HIT: 100,200,300,500,800,8400

### SoloRain® 8014 and 8020 DC ADAPTERS\* Model 77467

ALL HARDIE/IRRITROL VALVES  
SIGNATURE:  
7937,7987,7938,7988,7904,7914,7925,7927,  
7928,7937,7938,7987,7988,  
TORO: EZ FLOW,TPV  
K-RAIN: 7001,7200,7200

### Model 77468

RAINBIRD:  
PEB, DV, DVF, ASVF, EFB, GB, PGA, PESB, BPE, BPES

### Model 77481

WEATHERMATIC:  
ALL WEATHERMATIC VALVES

### Model 77516

HUNTER:  
ALL HUNTER VALVES

### Model 77526

TORO:  
252 (1.5" - 2"), 220

\* Sold separately. No adapter required on the following Signature Valves:  
7901, 7911, 7916, 7917, 9001, 9002, 9003, 9011, 9012, 9013, 9501,  
9501FC, 9502, 9515BC, 9515NC, 9520BC, 9520NC.  
This is a partial list please contact Signature for further details.

\* Battery life will vary depending on environmental conditions.  
Test results have shown 2 - 3 years of battery life

## FEATURES

### SoloRain® 8024 Series:

- FITS ALL SIGNATURE® TURF VALVES
- Available in 4 zone
- Three start times per program (9 total start times)
- Three independent programs
- Length of programmable watering time (1min to 3hr 59min per zone)
- Four scheduling options to suit the need of plant material or to comply with watering restrictions (days of the week, 1-30 day interval, true odd/even)
- Leap year compatible (automatically includes February 29th)
- 0-200% Water budget programming
- Three test cycles (manual open, cycle, and 3min test)
- Color coded label, wires make wiring /zone identification quick and easy!
- Can have up to 250 ft (76 m) of 18 AWG direct burial wire between the solenoid and the 8024 Series Controller (Must use Waterproof design connectors for splice or your warranty is void) waterproof design tested to IP68, 6 ft (1,8m).
- Long life battery\*
- Operates RainBird® & Hunter® DC latching Solenoids (makes for an easy controller replacement)

# BATTERY OPERATED CONTROLLERS

## SoloRain®

### 8030

Remote Programmable Actuator

### 8032 (8033)

Remote Programmable Actuator with 1" (25,4 mm) 7901/7916 valve

### 8071

Programmer Plus console

*Note: Versions in parenthesis feature BSP threading for international use*



8071

8030



8032



## SPECIFICATIONS

### DIMENSIONS (H X W X D)

8030: 4½" (11,5 cm) x 2¾" (7 cm) x 1¾" (4,5 cm)  
 8032: 7" (17,8 cm) x 4¾" (12 cm) x 2¾" (7 cm)  
 8071: 97/8" (25,1 cm) x 5¼" (13,3 cm) x 1¼" (3,2 cm)

### ELECTRICAL:

One 9V Alkaline Battery (not included)

### CERTIFICATIONS:



Part 15 Class B compliant



Enclosure Material: Plastic  
 Enclosure Type: Outdoor  
 Enclosure Rating: IP68\*

\* Self Certified

## FEATURES

### SoloRain® 8030 Series:

- FITS ALL SIGNATURE® TURF VALVES
- Compatible with most valves via adapters
- Solenoid and 9V battery compartment are compact and made of durable nylon construction
- Programming interface through cord connection to the model 8071 Programmer control console
- Waterproof design tested to IP68, 6 ft (1,8m). [Note; Removal of Programmer Socket Protection Cap wet environments, voids the waterproofing claim and potential for warranty]
- Latching solenoid design uses minimal battery consumption

### SoloRain® 8071:

- Independent programming of an unlimited number of 8030 series actuators
- Up to 16 irrigation start times per actuator
- 14-day programming calendar
- Built-in memory allows storage of up to 36 different irrigation programs
- Downloadable transfer of programs individually or to a group of actuators
- Memory is retained for 2 minutes during battery change
- Four line LCD display for easy menu guided programming
- User can choose between five languages for operation

## VALVE COMPATIBILITY CHART

### 8010/8030/8090DC (¾" – 20 Threads 9VDC) Adapter Kit #77440:

SIGNATURE 9001,9003,9002,9011,9013,9012,  
 7901,7916,7911,7917,9501,9501FC,  
 9502,9515NC,9520NC, 9515BC,9520BC,

### Adapter Kit #77422:

TORO: 252 (1.5" 2"),220	BERMAD 1"
IRRITROL: 2400,2600,2500,2700, 311,2623,300,700,100, 216,623DPR	DOROT 1" GALCON 1"
K-RAIN 7001,7200	GRISWOLD 1"

### Adapter Kit #77423:

TORO: EZ FLOW,TPV

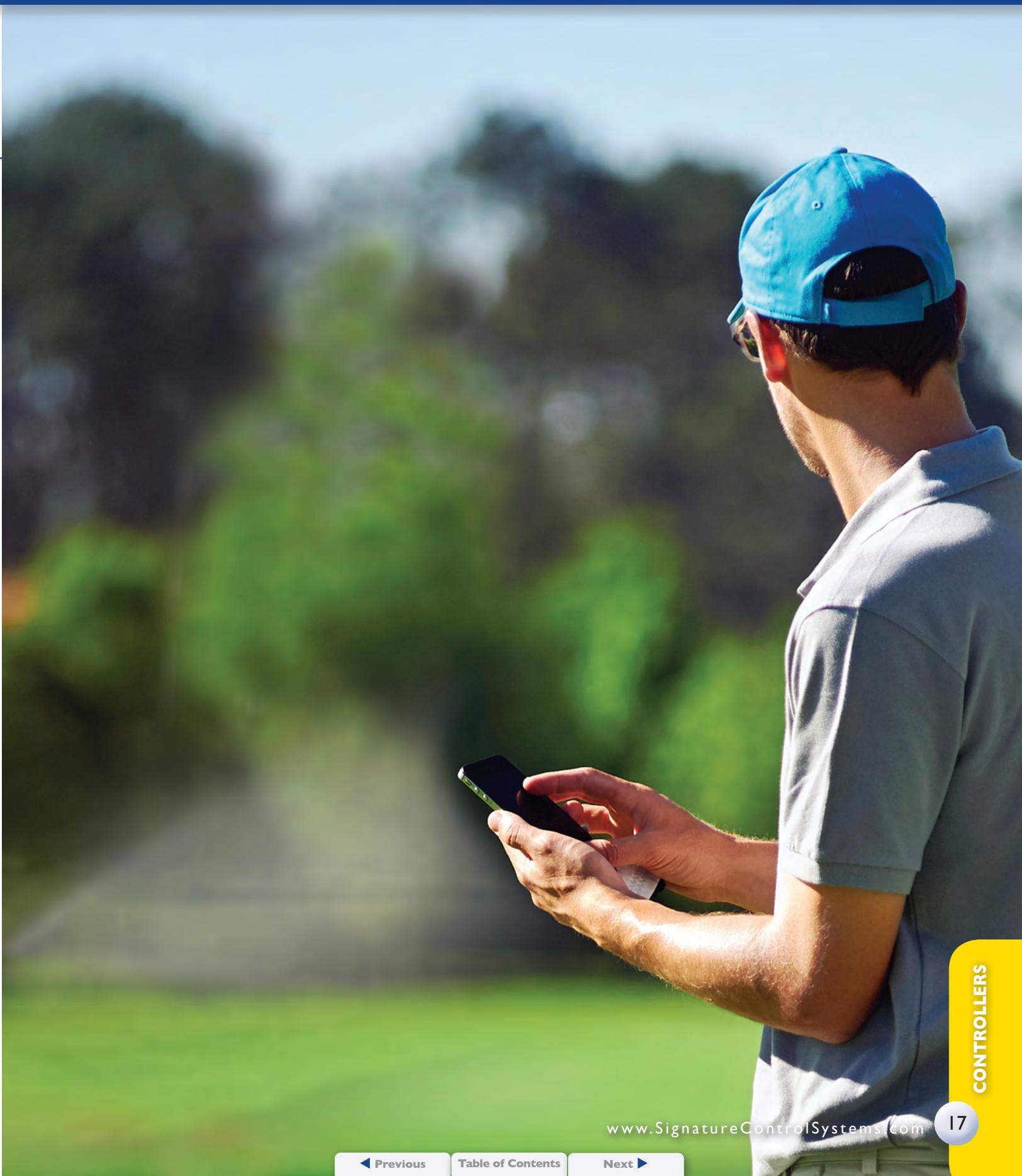
### Adapter Kit #77424:

RAIN BIRD:  
 DV,DVF,ASVF,JTV,JTVF,PGA,PEB,PESB,GBR,EFB,BPE,BPES

### Used without an adapter kit:

HIT: 100,200,300,500,800,8400

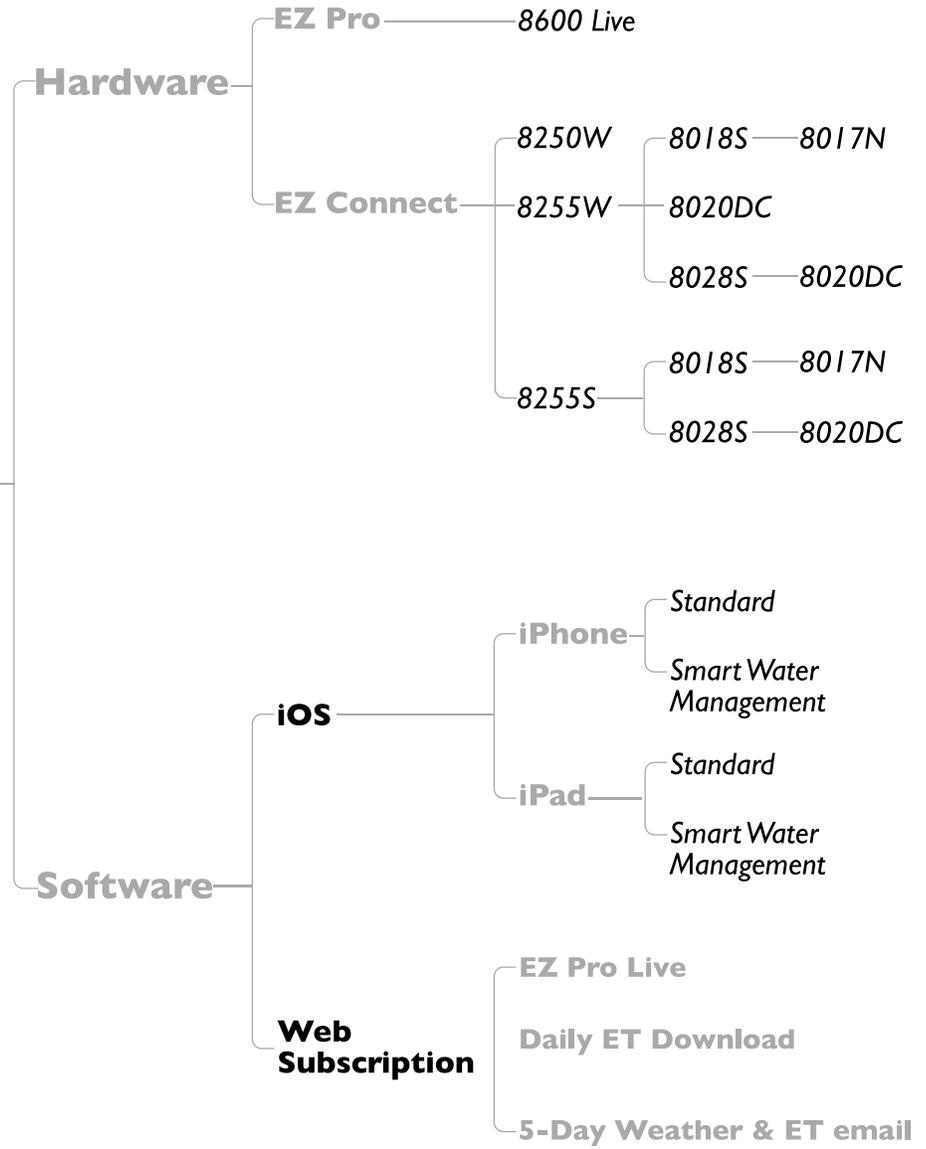
- Easy to program with large LCD display and simplified four rubber button keypad with audio "beep" response
- Impact-resistant plastic housing
- Operates on one 9 volt alkaline battery
- Programmable 12 or 24-hour clock with synchronizing function
- Watering times from one minute to 24 hours in one minute increments
- Manual START and STOP function
- Program review
- Rain ON/OFF capability





**Signature**<sup>®</sup>  
**Share**  
**TURF**

CONTROLLERS



# TURF CONTROLLERS



## TURF CONTROLLERS

	EZ Indoor	EZ Pro™ Jr. Indoor	EZ Pro™ Jr.	EZ Pro™
<b>APPLICATIONS</b>	<b>8120</b>	<b>8200</b>	<b>8300</b>	<b>8600</b>
Residential	✓	✓	✓	✓
Commercial/Municipal		✓	✓	✓
Sports Turf Applications	✓	✓	✓	✓
Indoor		✓	✓	✓
Outdoor				✓
<b>FEATURES</b>				
Programs	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>
Zones	<b>4, 6</b>	<b>4, 6, 9</b>	<b>4, 6, 9 &amp; 12</b>	<b>8, 12, 16, 20 &amp; 24</b>

	EZ Pro™	EZ Pro™	EZConnect™	EZConnect™ DC	EZConnect™ DC
<b>Signature Share WEB BASED APPLICATIONS</b>	<b>SHARE8600</b>	<b>8700</b>	<b>8250W</b>	<b>8255S</b>	<b>8255W</b>
Residential	✓	✓	✓	✓	✓
Commercial/Municipal	✓	✓	✓	✓	✓
Sports Turf Applications	✓	✓	✓	✓	✓
Indoor	✓	✓	✓	✓	✓
Outdoor	✓	✓			
<b>FEATURES</b>					
Programs	<b>16</b>	<b>16</b>	<b>20</b>	<b>12</b>	<b>12</b>
Zones	<b>8, 12, 16, 20 &amp; 24</b>	<b>8, 12, 16, 20 &amp; 24</b>	<b>12</b>	<b>6</b>	<b>6</b>

# PRODUCT OVERVIEW

## CONTROLLERS

### EZ Indoor™ 8100



- Available in 4 and 6 zones.
- Dual program, multiple start times and schedule options.
- Capable of 6 hours of run time per zone.
- Simple to budget water by program.
- A single long life lithium battery stores programs even without power connected

- and keeps the correct time and date for up to one year.
- Resettable fuse for short circuit zone protection.
- External transformer.
- Rain sensor compatible with use of a normally closed sensor.
- Smart Water Port™ for future upgrades

### EZ Pro™ Jr. 8200



- Available in 4, 6 and 9 zones.
- Three programs, multiple start times and schedule options. The 8200 series is capable of 5 hours 59 minutes of run time per zone.
- 1.0 Amp self resetting fuse for short circuit zone protection.

- The 8200 series comes in an indoor plastic cabinet with an external transformer.
- This series is packed with many advanced water management features such as global water budgeting, water budgeting by month, event days and a built in sensor input.

### EZ Pro™ Jr. 8300



- Available in 4, 6, 9, and 12 zones.
- Three programs, multiple start times and schedule options. The 8300 series is capable of 5 hours 59 minutes of run time per zone.
- Lithium battery backup stores programs without AC power or AA batteries.
- 1.0 Amp self resetting fuse for short circuit zone protection.

- The 8300 series comes in an indoor / outdoor weather resistant plastic cabinet with an internal transformer.
- This series is packed with many advanced water management features such as global water budgeting, water budgeting by month, event days and a built in sensor input.

### EZ Pro™ 8600



- Available in 8, 12, 16, 20, and 24 zones.
- Three programs, multiple start times and schedule options. The 8600 series is capable of 9 hours 59 minutes of run time per zone.
- Nonvolatile memory stores programs without AC power or AA batteries.
- 1.0 Amp self resetting fuse for short circuit zone protection.

- The 8600 series comes in an indoor / outdoor weather resistant plastic cabinet with an internal transformer.
- This series is packed with many advanced water management features such as global water budgeting, water budgeting by month and a built in sensor input.

### EZ Pro™ SHARE8600



- Remote / Local switch to toggle between Signature Share™ and front control panel of SHARE8600 series.
- Available in 8, 12, 16, 20, and 24 zones.
- Sixteen programs, multiple start times and schedule options.
- The SHARE8600 comes in an indoor / outdoor weather resistant plastic cabinet with an internal transformer.

- 1.25 Amp self resetting fuse for short circuit zone protection.
- Current Sensing for Solenoid Fault Detection (Opens and Overloads)
- Either GSM and CDMA data connections available
- This series is packed with many advanced water management features such as global water budgeting, water budgeting by month and a built in sensor input.

**EZ Pro™ 8700**



- Available in 8, 12, 16, 20, and 24 zones.
- Sixteen programs, multiple start times and schedule options.
- The 8700 series comes in an indoor / outdoor weather resistant plastic cabinet with an internal transformer.
- 1.25 Amp self resetting fuse for short circuit zone protection.
- Current Sensing for Solenoid Fault Detection (Opens and Overloads)

- Either GSM and CDMA data connections available
- This series is packed with many advanced water management features such as global water budgeting, water budgeting by month and a built in sensor input.
- Central control ready. Just install the Share™ communications module and control your controller from anywhere in the world using SCS-Share.com.

**EZConnect™ 8250 Series**



- Signature Share™ web based ET controller
- 12-zone 24VAC output.
- Twelve programs, multiple start times and schedule options.
- Indoor modular controller.
- 1 Amp self resetting fuse for short circuit zone protection
- Ethernet connectivity; connects directly to internet via local area network.
- No complex keypad or display; simple operation via Smart Phones or web

- based applications.
- Integrates to other Signature® products to expand the control network, ideal for remote control of battery operated Share compatible controllers
- Built in expansion port for communication module for smart sensor integration.
- Multiple Programs via web interface
- Operates on 110/220/240VAC plug in transformer power.
- Two sensor ports ready.

**EZConnectDC™ 8255 Series**



- Signature Share™ web based ET controller.
- 6-zone 12VDC output.
- Twelve programs, multiple start times and schedule options.
- Indoor modular controller.
- Connects directly to Signature Share™ cellular network out of the box.
- Immediately connects to Signature's Share™ platform of products.

- No complex keypad or display; simple operation via Smart Phones or web based devices.
- Two open/close sensor ports.
- Data port for smart sensors
- Operates on 110/220/240VAC plug in transformer power.

**EZConnectDC™ 8255S**



- Signature Share™ web based ET controller.
- 6-zone 12VDC output.
- Twelve programs, multiple start times and schedule options.
- Indoor modular controller.
- Connects directly to Signature Share™ cellular network out of the box.
- Integrates to other Signature® products to expand the control network, making it ideal for remote control of other DC or battery operated valves or controllers. (coming soon)

- Integrates to other Signature® products to expand the control network, ideal for remote control of battery operated Share compatible controllers
- No complex keypad or display; simple operation via Smart Phones or web based devices.
- Two open/close sensor ports.
- Data port for smart sensors
- Operates on 110/220/240VAC plug in transformer power.

**\* SCS Share Website System Requirements**

- Supported Browsers (JavaScript Enabled):**
- Internet Explorer 9+
  - Mozilla Firefox 24+
  - Google Chrome 30+
  - Safari 5+

- Other Requirements:**
- Adobe Flash Player
  - Best viewed at 1024 x 768 or higher resolution



# CONTROLLERS

## EZ Indoor™

### 8124\*

4 zone

### 8126\*

6 zone

\* A country code is required after model number:

- 'AU' - Australia
- 'ES' - Spain
- 'FR' - France
- 'IT' - Italy
- 'PT' - Portugal
- 'US' - English



## SPECIFICATIONS

### DIMENSIONS (H X W X D)

5¾" (14,6 cm) x 4½" (11,5 cm) x 1½" (3,8 cm)

### Cabinet:

Enclosure Material: Plastic  
Enclosure Type: Indoor

### # of zones:

4, 6

### ELECTRICAL:

#### 8124US, 8126US

#### USA & Canada

INPUT: 120V AC, 60 Hz  
OUTPUT: 24V AC, .50 Amp

#### 8124AU, 8124ES, 8124FR, 8124IT, 8124PT

#### 8126AU, 8126ES, 8126FR, 8126IT, 8126PT

#### International

INPUT: 230V AC, 50 Hz  
OUTPUT: 24V AC, .50 Amp

### CERTIFICATIONS:



Part 15 Class B compliant



## FEATURES

- Stacking start times
- Two independent programs
- Three start times per program
- Simple to budget water by program
- Smart Water Port™ for future upgrades
- True calendar clock (Leap year compatible)
- Scheduling options:
  - Odd/Even
  - Interval, 1-30 days
  - 7-day Calendar
- Zone run times from one minute to 6 hours
- Long life Lithium battery keeps correct time and date for up to 1 year
- Resettable fuse for short circuit zone protection
- Manual test with manual advance feature
- Rain sensor compatible

**EZ Pro™ Jr.****8204 (8274\*)**

4 zone

**8206(8276\*)**

6 zone

**8209 (8279\*)**

9 zone

\* A country code is required after model number:

**'AU'** - Australia

**'ES'** - Spain

**'FR'** - France

**'IT'** - Italy

**'PT'** - Portugal

**SPECIFICATIONS****DIMENSIONS (H X W X D)**7" (17,8 cm) x 5<sup>5</sup>/<sub>8</sub>" (14,3 cm) x 2" (5,1 cm)**Cabinet:**

Enclosure Material: Plastic

Enclosure Type: Indoor

**# of zones:**

4, 6, 9

**ELECTRICAL:****8204 to 8209:**

INPUT: 120V AC, 60 Hz

OUTPUT: 24V AC, .83 Amp

**8274 to 8289:**

INPUT: 230V AC, 50 Hz

OUTPUT: 24V AC, .83 Amp

Two AA alkaline batteries  
(not included)

**CERTIFICATIONS:**

Part 15 Class B compliant

**FEATURES**

- Stacking start times
- Three independent programs
- Three start times per program
- True calendar clock (Leap year compatible)
- Scheduling options: Odd/Even; Interval 1-30 days; 7-day Calendar; Event Day
- Zone run times from one minute to 5 hours 59 minutes
- Programmable delay between zones, 1 second to 30 minutes
- Quick push button rain sensor bypass
- Cycle test, Manual test with manual advance
- Two AA alkaline batteries keep correct time and date for 5 years
- Input and output surge protection
- 1.0 Amp self resetting polyswitch for short-circuit zone protection

**WATER MANAGEMENT FEATURES**

- Event days per program - Blocks any day from irrigating
- Water budget option reduces or increases watering 0 to 200 percent
- Advanced water budget to set water budget for each month of the year, per program 0 to 200 percent

# CONTROLLERS

## EZConnect™

### SHARE8250 Series



Ethernet Based Residential Controller

## Accessories

- **Sensor Expansion Module**
- **Upgrade for Intelligent watering and ET download.**
- **EZ Connect comms module**



Certified by ICC-ES  
WaterSense labeled only when this product is used with the Signature Share Intelligent Package

## SPECIFICATIONS

### DIMENSIONS (H X W X D)

7" (17,8 cm) x 5<sup>5</sup>/<sub>8</sub>" (14,3 cm) x 2" (5,1 cm)

### Cabinet:

Enclosure Material: Plastic  
Enclosure Type: Indoor

### # OF ZONES:

12

### ELECTRICAL:

#### USA & Canada

INPUT: 120V AC, 60 hz  
OUTPUT: 24V AC, .83 Amp

#### International

INPUT: 230V AC, 50 hz  
OUTPUT: 24V AC, .83 Amp

### CERTIFICATIONS:

FC Part 15 Class B compliant



## FEATURES

- No complex keypad or display; simple operation via Smart Phones, web based devices or iOS applications
- Stacking start times
- Twelve independent programs
- Twenty four events per program
- True calendar clock (Leap year compatible)
- Scheduling options:
  - 12-month calendar
  - Odd/Even
  - Interval (1-31 days)
- Zone run times from one minute to 11 hours 59 minutes
- Cycle test, Manual test with manual advance
- Input and output surge protection
- 1.0 Amp self resetting polyswitch for short-circuit zone protection
- Two sensor inputs: Moisture sensor; Flow sensor; Temperature sensor; Rain Sensor; Wind sensor
- Two expansion ports
- On board 10Mbit Ethernet port for wired network connection, or integrate 3rd party adapters for wi-fi or power line connectivity.
- Remote access via the Web

## WATER MANAGEMENT FEATURES

- Advanced water budget to set water budget for each month of the year, per program 0 to 200 percent
- Conventional time based watering scheduling as well as Smart Watering and ET-based scheduling capabilities.



**EZConnectDC™**

**SHARE8255 Series** 

Cellular Based Residential / Commercial Controller

**SHARE8255S Series** 

Cellular Based Residential / Commercial Controller with Access Point Data Modem



**Accessories**

**SHAREI8255S  
SHAREI8255W**

Intelligence Watering w/ ET upgrade



Certified by ICC-ES  
WaterSense labeled only when this product is used with the Signature Share Intelligent Package

**SPECIFICATIONS**

**DIMENSIONS (H X W X D)**

7" (17,8 cm) x 5<sup>5</sup>/<sub>8</sub>" (14,3 cm) x 2" (5,1 cm)

**Cabinet:**

Enclosure Material: Plastic

Enclosure Type: Indoor

**# OF ZONES:**

6

**ELECTRICAL:**

**USA & Canada**

INPUT: 120V AC, 60 hz

OUTPUT: 24V DC, .50 Amp

**International**

INPUT: 230V AC, 50 hz

OUTPUT: 24V DC, .50 Amp

**CERTIFICATIONS:**



Part 15 Class B compliant



**FEATURES**

- Signature Share™ web based ET controller
- 6-zone 12VDC output.
- Indoor controller.
- Twelve independent programs
- Compatible to Signature Share™ platform as well as remotely controlled via iOS devices or SmartPhones.
- Integrated data modem allows for immediate connection to Signature's Share network, out of the box.
- Integrated short-haul data radio to communicate to any Share access point controllers. Only on SHARE8255S MODELS .
- No complex keypad or display; simple operation via Smart Phones, web based devices, or iOS applications.
- Two digital pulse or switch sensor ports for integration of flow monitoring or rain sensors.
- Operates on 110/220/240VAC plug in transformer power.

**WATER MANAGEMENT FEATURES**

- Advanced water budget to set water budget for each month of the year, per program 0 to 200 percent
- Conventional time based watering scheduling as well as Smart Watering and ET-based scheduling capabilities.



# CONTROLLERS

## EZ Pro™ Jr.

**8304 (8374\*)**

4 zone

**8306 (8376\*)**

6 zone

**8309 (8379\*)**

9 zone

**8312 (8382\*)**

12 zone

\* A country code is required after model number:

**'AU'** - Australia

**'ES'** - Spain

**'FR'** - France

**'IT'** - Italy

**'PT'** - Portugal



## SPECIFICATIONS

### DIMENSIONS (H X W X D)

8" (20,3 cm) x 10" (25,4 cm) x 4" (10 cm)

### Cabinet:

Enclosure: Plastic Wall Mount

Enclosure Type: Outdoor

Enclosure Rating: IP24\*

\* Certified

### # of zones:

4, 6, 9, 12

### ELECTRICAL:

#### 8304 to 8312:

INPUT: 120V AC, 60 Hz

OUTPUT: 24V AC, .83 Amp

#### 8374 to 8382:

INPUT: 230V AC, 50 Hz

OUTPUT: 24V AC, .83 Amp

Two AA alkaline batteries (not included)

### CERTIFICATIONS:

FC Part 15 Class B compliant



## FEATURES

- Lithium battery back-up stores programs without AC power or AA batteries
- Stacking start times
- Three independent programs
- Three start times per program
- True calendar clock (Leap year compatible)
- Scheduling options: Odd/Even; Interval 1-30 days; 7-day Calendar; Event Day
- Zone run times from one minute to 5 hours 59 minutes
- Programmable delay between zones, 1 second to 30 minutes
- Quick push button rain sensor bypass
- Cycle test, Manual test with manual advance
- Two AA alkaline batteries keep correct time and date for 5 years
- Input and output surge protection
- 1.0 Amp self resetting polyswitch for short-circuit zone protection

## WATER MANAGEMENT FEATURES

- Event days per program - Blocks any day from irrigating
- Water budget option reduces or increases watering 0 to 200 percent
- Advanced water budget to set water budget for each month of the year, per program 0 to 200 percent

**EZ Pro™**

**8608 (8678\*)**

8 zone

**8612 (8682\*)**

12 zone

**8616 (8686\*)**

16 zone

**8620 (8690\*)**

20 zone

**8624 (8694\*)**

24 zone

\* A country code is required after model number:

**'AU'** - Australia

**'ES'** - Spain

**'FR'** - France

**'IT'** - Italy

**'PT'** - Portugal



**FEATURES**

- Non-volatile memory stores programs without AC power or batteries
- Two AA batteries keep correct time for one year
- Stacking start times
- Pump start programmable by zone
- Programmable Rain Delay to 99 days
- Three independent programs
- Four start times per program
- Three scheduling options to suit the needs of plant material or to comply with watering restrictions (7 day calendar, 1-30 day interval, true odd/even)
- Leap year compatible
- Water budget option reduces or increases watering 0-200 percent
- Advanced water budget to set water budget for each month of the year
- Three test cycles (Manual test with manual advance feature, Cycle test, 3-minute test)
- Programmable run times from one minute to 9 hours 59 minutes
- Poly-fuse self resetting circuit protection
- This controller has a built-in sensor port.

**WATER MANAGEMENT FEATURES**

- Water budget option reduces or increases watering 0 to 200 percent
- Advanced water budget to set water budget for each month of the year, per program 0 to 200 percent
- Conventional time based watering scheduling as well as Smart Watering and ET-based scheduling capabilities. (when using Signature Share™)

**SPECIFICATIONS**

**DIMENSIONS (H X W X D)**

9" (22,9 cm) x 12" (30,5 cm) x 5" (12,5 cm)

**Cabinet:**

Enclosure: Plastic: Wall Mount

Enclosure Type: Outdoor

Enclosure Rating: IP24\*

\* Self Certified

**# of zones:**

8, 12, 16, 20, 24

**ELECTRICAL:**

**8608 to 8624:**

INPUT: 120V AC, 60 Hz

OUTPUT: 24V AC, 1.25 Amp

**8678 to 8694:**

INPUT: 230V AC, 50 Hz

OUTPUT: 24V AC, 1.25 Amp

Two AA alkaline batteries (not included)

**CERTIFICATIONS:**



# CONTROLLERS

## EZ Pro™

SHARE8600W<sup>1</sup>



EZPro™ Remote Access Point Controller

\* 1 - International number



Certified by  
ICC-ES

WaterSense labeled only  
when this product is used with the  
Signature Share Intelligent Package



## FEATURES

- Remote / Local switch to toggle between Signature Share™ and front control panel of 8600 series.
- Current Sensing for Solenoid Fault Detection (Opens and Overloads)
- Pushbutton for Valve Testing
- Diagnostic LED's for assessing Device State
- Either GSM and CDMA data connections available
- Up to 1 active outputs plus pump
- Programmable pump prime and purge intervals
- Sixteen independent programs
- Individual Station linking to pump output
- Water Budgeting based on Month
- SHARE8600 is accessible from any internet capable computer anywhere in the world
- Compatible with our Signature Share™ platform as well as remotely controlled via iOS devices or SmartPhones.
- Remotely monitor sites from one location or an infinite number of locations
- All programs are stored in the controller once downloaded, and are available 24/7 on our secure server
- SHARE8600 requires no extensive backups; we handle all upgrades, support and maintenance
- Upgrades are uploaded seamlessly; when you log on they are ready
- Menus are user friendly and intuitive using graphical user interface

## WATER MANAGEMENT FEATURES

- SHARE8600 uses real-time weather data (ET) and transmits it to each controller
- Smart-Water programming allows the controller to precisely irrigate each micro climate individually by programming all agronomical attributes of the irrigated landscape, saving water, time, and expense
- Eliminates requirement to purchase a weather station or other weather services
- Integrated sensor port can accommodate a rain switch

**Note:**

Data rates may apply given site geography, region of the world and Local Service Providers.

## SPECIFICATIONS

### DIMENSIONS (H X W X D)

9" (22,9 cm) x 12" (30,5 cm) x 5" (12,5 cm)

**Cabinet:**

Enclosure: Plastic: Wall Mount

Enclosure Type: Outdoor

Enclosure Rating: IP24\*

\* Self Certified

**# of zones:**

8, 12, 16, 20, 24

### ELECTRICAL:

**USA & Canada**

INPUT: 120V AC, 60 Hz

OUTPUT: 24V AC, 1.25 Amp

**International**

INPUT: 230V AC, 50 Hz

OUTPUT: 24V AC, 1.25 Amp

Two AA alkaline batteries  
(not included)

### CERTIFICATIONS:

FC Part 15 Class B compliant



## EZ Pro™ SHARE8700W<sup>1</sup> Signature Share

EZPro™ Remote Access Point Controller

\* 1 - International number



WaterSense labeled only when this product is used with the Signature Share Intelligent Package



## FEATURES

- Current Sensing for Solenoid Fault Detection (Opens and Overloads)
- Pushbutton for Valve Testing
- Diagnostic LED's for assessing Device State
- Either GSM and CDMA data connections available
- Up to 2 active outputs plus pump
- Programmable pump prime and purge intervals
- Sixteen independent programs
- Individual Station linking to pump output
- Programmable Current Min and Max per Station
- Optional RF Interface for future expansion of wireless sensors and actuators
- Water Budgeting based on Month
- SHARE8700 is accessible from any internet capable computer anywhere in the world
- Compatible with our Signature Share™ platform as well as remotely controlled via iOS devices or SmartPhones.
- Remotely monitor sites from one location or an infinite number of locations
- All programs are stored in the controller once downloaded, and are available 24/7 on our secure server
- SHARE8700 requires no extensive backups; we handle all upgrades, support and maintenance
- Upgrades are uploaded seamlessly; when you log on they are ready
- Menus are user friendly and intuitive using graphical user interface

### WEATHER-BASED IRRIGATION SCHEDULING (ET) [OPTIONAL SERVICE]

- SHARE8700 uses real-time weather data (ET) and transmits it to each controller
- Smart-Water programming allows the controller to precisely irrigate each micro climate individually by programming all agronomical attributes of the irrigated landscape, saving water, time, and expense
- Eliminates requirement to purchase a weather station or other weather services
- Integrated sensor port can accommodate either a rain switch or flow meter. Additional Sensors can be added via an Expansion Port

#### Note:

Data rates may apply given site geography, region of the world and Local Service Providers.

## SPECIFICATIONS

### DIMENSIONS (H X W X D)

9" (22,9 cm) × 12" (30,5 cm) × 5" (12,5 cm)

#### Cabinet:

Enclosure: Plastic Wall Mount

Enclosure Type: Outdoor

Enclosure Rating: IP24\*

\* Self Certified

#### # Of Zones:

8, 12, 16, 20, 24

### ELECTRICAL:

#### USA & Canada

INPUT: 120V AC, 60 Hz

OUTPUT: 24V AC, 1.25 Amp

#### International

INPUT: 230V AC, 50 Hz

OUTPUT: 24V AC, 1.25 Amp

### CERTIFICATIONS:



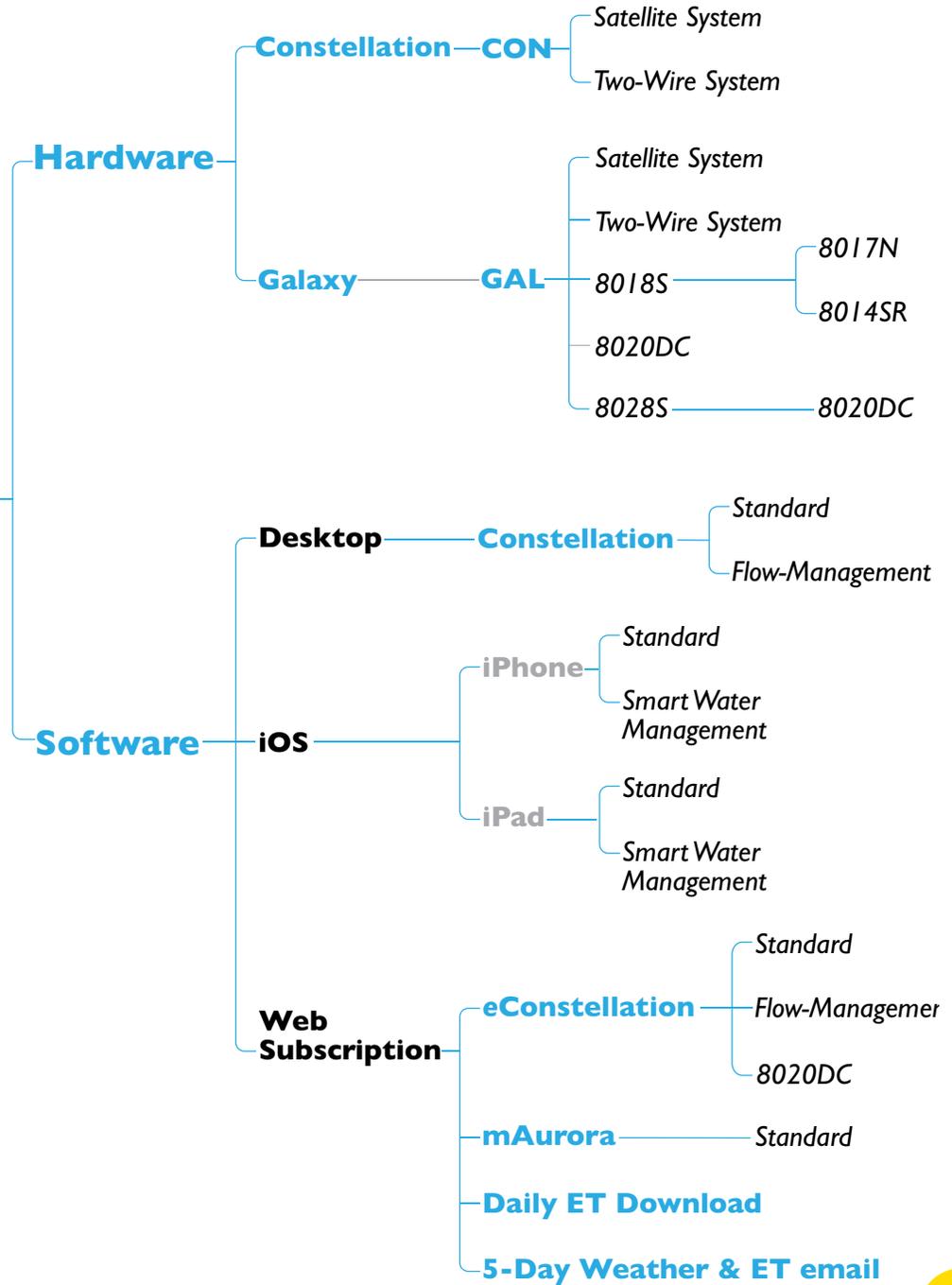
Part 15 Class B compliant



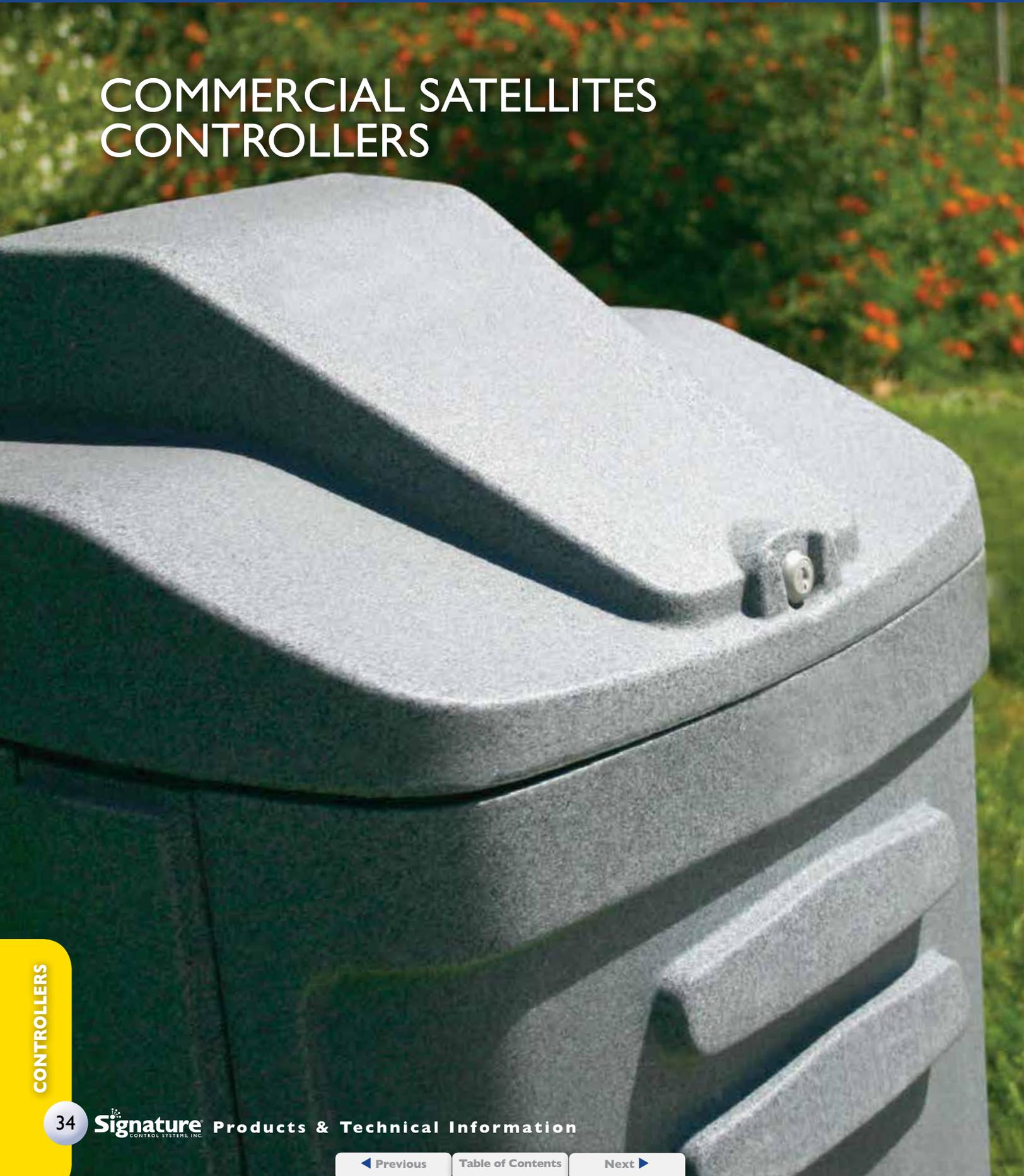


**Signature**<sup>®</sup>  
**Share**  
**COMMERCIAL**

CONTROLLERS



# COMMERCIAL SATELLITES CONTROLLERS



COMMERCIAL SATELLITE CONTROLLERS

<i>Partial Features List</i>	<b>TURF CONTROLLERS SATELLITES (24VAC) GALAXY™ CONSTELLATION®</b>		<b>DECODER CONTROLLERS SATELLITES (2-Wire) GALAXY™ CONSTELLATION®</b>	
<b>APPLICATIONS</b>				
Commercial	✓	✓	✓	✓
Municipal	✓	✓	✓	✓
Sports turf	✓	✓	✓	✓
<b>ENCLOSURE TYPE</b>				
Wall Mount	✓	✓	✓	✓
Plastic Pedestal	✓	✓	✓	✓
Stainless Steel	✓	✓	✓	✓
<b>NETWORK COMMUNICATION</b>				
Stand-Alone Controller	✓	✓	✓	✓
Peer-to-Peer Communication		✓		✓
Local Sensors	✓	✓	✓	✓
Network Sensing		✓		✓
<b>CENTRAL CONTROL UPGRADEABLE</b>				
Constellation® Desktop	✓	✓	✓	✓
eConstellation®	✓	✓	✓	✓
Share™ Network	✓	✓	✓	✓
<b>OTHER</b>				
Uses Decoder Modules	✓	✓	✓	✓
Uses Valve Modules	✓	✓	✓	✓
Hybrid of Output	✓	✓	✓	✓

# PRODUCT OVERVIEW

## COMMERCIAL SATELLITE CONTROLLER FAMILY

### GALAXY™



- The **Galaxy™** Satellite Controller delivers the ultimate in power at an affordable price.
- Galaxy™ is designed to operate as a stand-alone controller or as a satellite in a central controlled system.
- Galaxy™ is easy to operate with flexible configuration and communication options.
- Galaxy™ firmware can be upgraded in the field to a fully configured Constellation® version allowing the user full access to our patented Peer-to-Peer networking features.
- Available in several languages.
- All controllers are intelligent and smart; meaning, they don't need constant contact with central computers or expensive software packages to operate.
- Available in both 24VAC or 2-wire configurations or a hybrid of both.
- Ability to communicate over the internet and via SmartPhone technology with Signature® mobile software.

### GALAXY-RT™



- The **Galaxy-RT™** Satellite Controller operates exclusively in a central controlled environment.
- Immediately connects to Signature's Share™ platform of products, out of the box.
- No complex keypad or display; simple operation via Smart Phones or web based iOS applications.
- Ability to control via the internet from anywhere without requiring expensive local communications infrastructure.
- Ease of installation makes the Galaxy-RT™ the choice of Contractors.
- Control standard solenoids via 24VAC wiring or 2-wire decoder configurations.

### CONSTELLATION®



- The **Constellation®** Satellite Controller delivers the ultimate in power, ease and value.
- Constellation® is designed to function as a stand-alone controller or as a satellite in a network with or without a central computer.
- No need to have software to operate; intelligent processors store data and operate independently of the network.
- Available in several languages.
- Remotely control any station located on any other controller on the Signature network, via Signature's peer-to-peer technology.
- Each Constellation® Satellite Controller is like having a central computer in the field for unprecedented control and unparalleled value.
- Constellation® is easy to operate with flexible configuration and communication options.
- Fits every commercial application—from parks, sports complexes, and business parks— to cemeteries, theme parks, HOAs.
- Suitable for hybrid applications where two-wire systems and traditional wired systems coincide.
- Expansion made easy with a modular output design

## DECODER CONTROLLER FAMILY

### GALAXY-RT™ Solar



- The **Galaxy-RT™** Solar Powered Satellite Controller operates exclusively from solar power.
- Immediately connects to Signature's Share™ platform of products, out of the box.
- Remote control via iOS devices such as iPhones® & iPads®.
- No complex keypad or display; simple operation via Smart Phones or web based iOS applications.
- Integrates to other Signature® products to expand the control network, making it ideal for remote control of other DC or battery operated valves or controllers.

### Field Decoders & In-Line Surge Protection



- User-defined programmable addresses make it easy to setup and install without any complex equipment.
- User-defined station loading within the controllers allow for compensation for lengthy cable runs or additional decoder installations.
- By using the decoder programmer; change decoder (low power versions) addresses in the field, with ease.
- Field decoders are directly compatible to Signature Share™ platform as well as remotely controlled via iOS devices or SmartPhones.
- Each decoder modulator includes 125-individually programmable stations and each controller; is expandable to 250-stations with the addition of a additional module.
- Ease of installation has made decoders more popular around the world; together with the ease of future expansion by simple splice, install & go.
- Fully encapsulated electronic components making the decoders ready for direct burial.
- Pre-coded addressing eliminates confusion associated with switch-based addressing.

**\* SCS Share Website System Requirements**

**Supported Browsers (JavaScript Enabled):**

- Internet Explorer 9+
- Mozilla Firefox 24+
- Google Chrome 30+
- Safari 5+

**Other Requirements:**

- Adobe Flash Player
- Best viewed at 1024 x 768 or higher resolution



# COMMERCIAL SATELLITE CONTROLLERS

**Galaxy™**

**Constellation®**

**Galaxy™  
Decoder**

**Constellation®  
Decoder**



**Wall Mount Enclosure**



**Plastic  
Pedestal Enclosure**

**Heavy-Duty  
Stainless Steel  
Pedestal  
(Top Opening Style)**



**See page 52 Pedestal options**

## FEATURES & BENEFITS

Constellation® [CON] and Galaxy® [GAL] Satellite Controller's Stand-alone controller's or network satellites for commercial and sports turf applications

### NETWORK

Patented true two-way communication (peer to peer) allows an Constellation® Satellite Controller to operate as a stand-alone controller or as part of a satellite network with or without a central computer [CON only]

- Sensor inputs allow satellites to monitor, store and share data from multiple sensors across a network [GAL requires CIU module to share network data].
- Hardwire, Ethernet and radio communications can be used on the same network
- Cell phone and handheld radios can be used as remotes
- Backward and forward compatible
- CON network can be monitored and controlled from and at any satellite through Signature's patented Peer to Peer communication technology, through a central computer with Constellation® desktop software, or via the internet with our eConstellation® web service, or both for that matter
- Hardwire ready configuration allows for quick and inexpensive installation of communication between satellites

### SATELLITE CONTROLLER

- Multilingual user interface
- Enable and disable commands with delay timer
- User-selectable, 12-hour or 24-hour clock format
- Semi-automatic, manual and delayed manual station control
- Global, controller/satellite, program water budgeting from 0-999%
- Open, Overload and short-circuit protection
- User-selectable Water Budget or ET-adjusted control for each irrigation schedule/program
- Master valves (2 N/C and 2 N/O) and local and remote pump capabilities and pump start
- Accommodates up to two sensors and shares an additional 4 sensors across a network [CON only & GAL requires an CIU module to share network data]
- Flow monitoring and reporting of over-flow or under-flow conditions
- Generates alarms, flow and status reports which can be transmitted to a user defined-location and/or stored in the local alarm log

- Pedestal units can be configured for 96 traditional stations, or 250 decoder addresses (6 valve modules max. within a pedestal)
- Wall-mount units can be configured for 48 traditional stations, or 250 decoder addresses (3 valve modules max. within a wall mount)
- Manages 128 fully independent, customized schedules/programs [GAL has 32 fully independent, customized schedules/programs]
- Each schedule/program has 8 start times and can accommodate up to 48 events; stations can be run in any sequence and you have the capability to run the same station multiple times within the same schedule/program, each with a different run time if needed
- Programs can be linked to start when another program ends—from any satellite on the network [CON only]
- Each schedule/program has 8 start times and can accommodate up to 48 events; stations can be run in any sequence and you have the capability to run the same station multiple times within the same schedule/program, each with a different run time if needed
- Programs can be linked to start when another program ends—from any satellite on the network [CON only]
- Each schedule/program has a completely independent watering calendar which can be All Months, Months, Weeks, Odd/Even or interval up to 99 days
- Virtually unlimited flexibility for specific cycle scheduling/programming
- Multiple repeats and pauses within a schedule/program
- Suitable for hybrid applications where two-wire systems and traditional wired systems coincide

### NETWORK COMMUNICATIONS OPTIONS

- Hardwire (Standard)
- Digital Spread Spectrum Radio (License Free) [900 MHz and 2.4 GHz]
- Ethernet Modem

### REMOTE COMMUNICATIONS OPTIONS

- Handheld Maintenance Radio [VHF]
- Cellular Phone (CDMA and GSM)
- Ethernet Modem

#### Note:

*Other options available — options vary by location; check with your local distributor*

**Summary Features List**

	SATELLITES (24VAC)			SATELLITES (2-Wire)		
	GALAXY™	GALAXY-RT™	CONSTELLATION®	GALAXY™	GALAXY-RT™	CONSTELLATION®
Peer-to-Peer Communication			✓			✓
<b>PROGRAMMING FEATURES</b>						
Number of Zones (Wall Mount)	8-48	8-48	8-48	250	250	250
Number of Zones (Pedestal)	8-96	8-96	8-96	250	250	250
Remote Master Valve / Pump Starts			✓			✓
Master Valve / Pump Starts	1 N/O	4 N/O or N/C	2 N/O, 2 N/C	1 N/O	4 N/O or N/C	2 N/O, 2 N/C
Number of Independent Programs Per Controller	32	32	128	32	32	128
Start Times per Program	8	16	8	8	16	8
Multiple Start Types per Program	✓	✓	✓	✓	✓	✓
Events per Program	48	64	48	48	64	48
Real Time Flow Sensing	✓	✓	✓	✓	✓	✓
<b>SENSOR FEATURES</b>						
Local Sensors per Satellite	2	0	2	2	0	2
Remote Sensors per Satellite			4			4
Sharing of Sensor Data - from Interface Unit	✓	Coming Soon	✓	✓		✓
Sharing of Sensor Data - from any Satellite			✓			✓

**DECODER OPTIONS**

**LOW POWER TYPE**

**CD-111LP:** Low Power Field Decoder; 1- address, 1-solenoid

**CD-121LP:** Low Power Field Decoder; 2- addresses, 1-solenoid per address

**STANDARD DECODER TYPE**

**CD-112:** Field Decoder; 1- address, up to 2-solenoid per address

**CD-122:** Field Decoder; 2- addresses, up to 2-solenoids per address

**CD-111:** Field Decoder; 1- address, 1-solenoid

**CD-132:** Field Decoder; 3- addresses, up to 2-solenoids per address

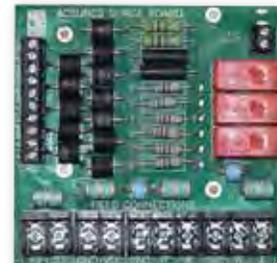
**CD-142:** Field Decoder; 4- addresses, up to 2-solenoids per address

**2-WIRE ACCESSORIES**

**ACDECI:** 125-Zone Decoder Modulator Board

**ADPROG:** Decoder Field Programmer

**TWSPK:** Decoder Surge Protection Kit



**CERTIFICATIONS:**

FC Part 15 Class B compliant



# COMMERCIAL SATELLITE CONTROLLERS

## Galaxy-RT™ Share

Galaxy™ Remote Access Point Controller



Certified by ICC-ES

WaterSense labeled only when this product is used with the Signature Share Intelligent Package



Wall Mount Enclosure



Plastic Pedestal Enclosure

## SPECIFICATIONS

### DIMENSIONS (H X W X D)

#### Wall Mount

18" (46 cm) x 14" (36 cm) x 4¼" (36 cm)

### CERTIFICATIONS:



## FEATURES & BENEFITS

### REMOTE ACCESS

- Galaxy-RT™ is accessible from any internet capable computer anywhere in the world
- Compatible with our Signature Share™ platform as well as remotely controlled via iOS devices or SmartPhones.
- Remotely monitor sites from one location or an infinite number of locations
- All programs are stored in the controller once downloaded, and are available 24/7 on our secure server

### COST EFFECTIVE

- Galaxy-RT™ requires no expensive desktop software purchases or support plans
- Eliminates the need for dedicated irrigation computer and extended service plans
- Abolishes time consuming software upgrades and related programming

### EASY TO USE

- Galaxy-RT™ requires no extensive backups; we handle all upgrades, support and maintenance
- Upgrades are uploaded seamlessly; when you log on they are ready
- Menus are user friendly and intuitive using graphical user interface

### WEATHER-BASED IRRIGATION SCHEDULING (ET) [OPTIONAL SERVICE]

- Galaxy-RT™ uses real-time weather data (ET) and transmits it to each controller
- Smart-Water programming allows the controller to precisely irrigate each micro climate individually by programming all agronomical attributes of the irrigated landscape, saving water, time, and expense
- Eliminates requirement to purchase a weather station or other weather services

#### Note:

Data rates may apply given site geography, region of the world and Local Service Providers.

## HOW IT WORKS

- **Galaxy-RT™** is an internet-based central control system used for Commercial or Sports Turf Sites.
- Communicates with Galaxy-RT™ irrigation field controllers exclusively using cellular connectivity, and allows management the controller from anywhere in the world via the internet or smart phone.
- Along with all the advantages of internet-based access to remote irrigation field controllers, Galaxy-RT™ provides a weather-based irrigation scheduling option.
- Location-specific weather data (ET) is delivered daily to irrigation controllers which allow the realization of quantifiable water savings and reduced operational costs.
- Smart watering software via the Signature Share™ platform makes the Galaxy-RT™, a very powerful controller right out of the box. Truly a plug and play controller; no complex radio site surveys or hardwire installation expense. (May require a cellular data plan from your local carrier.)



**Galaxy-RT™ Signature Share Solar**

Galaxy™ Solar Powered & Remote Access Point Controller



Wall Mount Enclosure

**FEATURES**

**Galaxy-RT™ Solar**

- Signature Share™ web based ET capable controller.
- Operates on Solar power.
- 6-zone 12V DC Latching output.
- Indoor/Outdoor Enclosure, Pole mounted system (optional).
- Connects directly to Signature Share™ cellular network, via Signature® proprietary designed data modem, right out of the box..
- Integrates to other Signature® products to expand the control network, making it ideal for remote control of other DC or battery operated valves or controllers.
- No complex keypad or display; simple operation via Smart Phones, web based devices, or iOS applications.
- Integrated short-haul data radio to communicate to any access point controllers compatible with the Signature Share™ platform. (coming soon)
- Connect to 8018S and 8028S actuators for expanded remote control of far to reach zones. (coming soon)

**Note:**

- \* May require site specific solar panel
- \* Sold as a kit



Outdoor Enclosure, Pole Mounted System



WaterSense labeled only when this product is used with the Signature Share Intelligent Package

**SPECIFICATIONS**

**DIMENSIONS (H X W X D)**

**Wall Mount**

18" (46 cm) x 14" (36 cm) x 4¼" (36 cm)

**SATELLITE CONTROLLER**

- Enable and disable commands with delay timer
- Semi-automatic, manual and automatic control.
- Controller/satellite, program water budgeting
- Open, Overload and short-circuit protection
- Data port for digital sensors
- Generates alarms and status reports which can be transmitted to a user defined location and/or stored in the local alarm log
- Manages multiple customized schedules/programs.

**NETWORK**

- Cell phones can be used as remotes
- Backward and forward compatible
- Remotely upgradeable
- Each schedule/program has a completely independent watering calendar which can be All Months, Weeks, or Odd/Even.
- Multiple repeats and pauses within a schedule/program

**REMOTE COMMUNICATIONS OPTIONS**

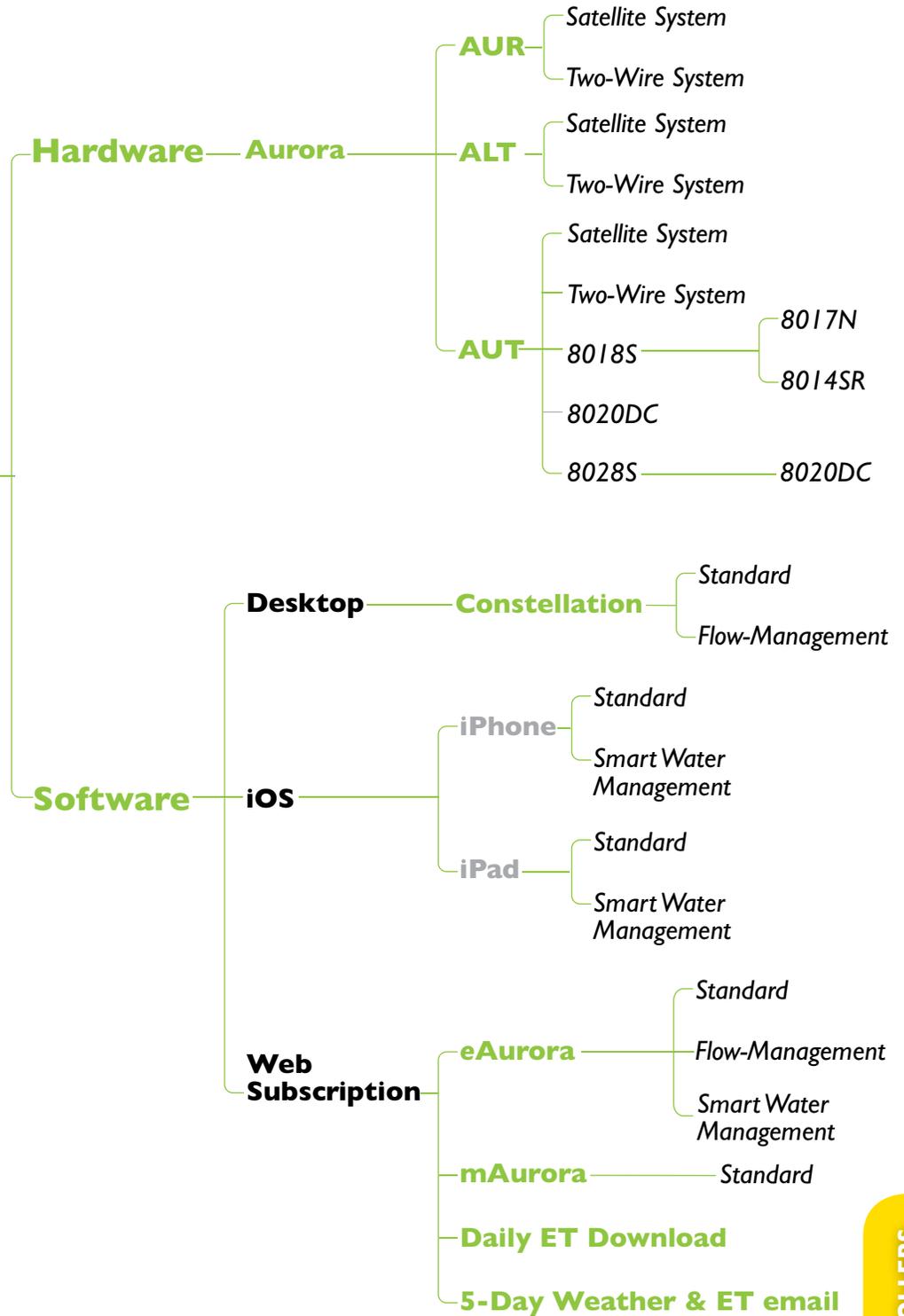
- Cellular Phone (CDMA and GSM)
- Smart Phones or web based iOS applications





**Signature**<sup>®</sup>  
**Share**  
**GOLF**

CONTROLLERS



# GOLF SATELLITES CONTROLLERS

## GOLF SATELLITE CONTROLLERS

<i>Summary Features List</i>	<b>GOLF CONTROLLERS SATELLITES (24VAC)</b> <i>Aurora LT™ Aurora RT™ Aurora®</i>			<b>DECODER CONTROLLERS SATELLITES (2-Wire)</b> <i>Aurora LT™ Aurora RT™ Aurora®</i>		
<b>ENCLOSURE TYPE</b>						
Golf	✓	✓	✓	✓	✓	✓
<b>NETWORK COMMUNICATION</b>						
Stand-Alone Controller	✓	✓	✓	✓	✓	✓
Peer-to-Peer Communication			✓			✓
Hybrid Communication	✓		✓	✓		✓
Wireless Communication		✓			✓	
Local Sensors	✓	✓	✓	✓	✓	✓
Network Sensing			✓			✓
<b>CENTRAL CONTROL UPGRADEABLE</b>						
Aurora® Desktop	✓		✓	✓		✓
eAurora®	✓		✓	✓		✓
Share™ Network	✓	✓	✓	✓	✓	✓
<b>OTHER</b>						
Uses Decoder Modules	✓	✓	✓	✓	✓	✓
Uses Valve Modules	✓	✓	✓	✓	✓	✓
Hybrid of Output	✓	✓	✓	✓		

# PRODUCT OVERVIEW

## GOLF SATELLITE CONTROLLER FAMILY

### AURORA LT<sup>®</sup>



- The **Aurora LT<sup>™</sup>** Satellite Controller delivers the ultimate in power at an affordable price.
- Aurora LT<sup>™</sup> is designed to operate as a stand-alone controller or as a satellite in a central controlled system.
- Aurora LT<sup>™</sup> is easy to operate with flexible configuration and communication options.
- Aurora LT<sup>™</sup> firmware can be upgraded in the field to a fully configured Aurora<sup>®</sup> version allowing the user full access to our patented Peer-to-Peer networking features.
- Available in several languages.
- All controllers are intelligent and smart; meaning, they don't need constant contact with central computers or expensive software packages to operate.
- Available in both 24VAC or 2-wire configurations and a hybrid of both, without the need for Central Software.
- Ability to communicate over the internet and via SmartPhone technology with Signature<sup>®</sup> mobile software.

### AURORA-RT<sup>™</sup>



- The **Aurora-RT<sup>™</sup>** Satellite Controller operates exclusively in a central controlled environment.
- Immediately connects to Signature's Share<sup>™</sup> platform of products, out of the box.
- No complex keypad or display; simple operation via Smart Phones or web based iOS applications.
- Ability to control via the internet from anywhere without requiring expensive local communications infrastructure.
- Ease of installation makes the Aurora-RT<sup>™</sup> the choice of Contractors.
- Control standard solenoids via 24VAC wiring or 2-wire decoder configurations.

### AURORA<sup>®</sup>



- The **Aurora<sup>®</sup>** Satellite Controller delivers the ultimate in power, ease and value.
- Aurora<sup>®</sup> is designed to function as a stand-alone controller or as a satellite in a network with or without a central computer.
- No need to have software to operate; intelligent processors store data and operate independently of the network.
- Available in several languages.
- Remote control of stations located in remotely located Aurora<sup>®</sup> controllers from anywhere on the Signature<sup>®</sup> network, via Signature's peer-to-peer technology.
- Each Aurora<sup>®</sup> Satellite Controller is like having a central computer in the field for unprecedented control and unparalleled value.
- Aurora<sup>®</sup> is easy to operate with flexible configuration and communication options.
- Fits every golf and commercial application—from golf courses, parks, sports complexes, and business parks—to cemeteries, theme parks, HOAs.
- Suitable for hybrid applications where two-wire systems and traditional wired systems coincide.
- Expansion made easy with a modular output design

## DECODER CONTROLLER FAMILY

### Field Decoders & In-Line Surge Protection



- User-defined programmable addresses make it easy to setup and install without any complex equipment.
- User-defined station loading within the controllers allow for compensation for lengthy cable runs or additional decoder installations.
- By using the decoder programmer, change decoder (low power versions) addresses in the field, with ease.
- Field decoders are directly compatible to Signature Share™ platform as well as remotely controlled via iOS devices or SmartPhones.
- Each decoder modulator includes 125-individually programmable stations and each controller is expandable to 250-stations with a single expansion module.
- Ease of installation has made decoders more popular around the world; together with the ease of future expansion by simple splice, install & go.
- Fully encapsulated electronic components making the decoders ready for direct burial.
- Pre-coded addressing eliminates confusion associated with switch-based addressing.

**\* SCS Share Website System Requirements**

**Supported Browsers (JavaScript Enabled):**

- Internet Explorer 9+
- Mozilla Firefox 24+
- Google Chrome 30+
- Safari 5+

**Other Requirements:**

- Adobe Flash Player
- Best viewed at 1024 x 768 or higher resolution



# GOLF SATELLITE CONTROLLERS

## AuroraLT™

## Aurora®

## AuroraLT™ Decoder

## Aurora® Decoder



**Wall Mount Enclosure**



Certified by  
ICC-ES

WaterSense labeled only  
when this product is used with the  
Signature Share Intelligent Package



**Plastic Pedestal Enclosure**

**See page 52 Pedestal options**

## FEATURES

Aurora® [AUR] and Aurora® LT [ALT] Satellite Controller's Stand-alone controller's or network satellites for golf courses

### NETWORK

Patented true two-way communication (peer to peer) allows an Aurora® Satellite Controller to operate as a stand-alone controller or as part of a satellite network with or without a central computer [AUR only]

- Sensor inputs allow satellites to monitor, store and share data from multiple sensors across a network [ALT requires AIU module to share network data]
- Hardwire, Ethernet and radio communications can be used on the same network
- Cell phones and handheld radios can be used as remotes
- Backward and forward compatible
- AUR network can be monitored and controlled from and at any satellite through Signature's patented Peer to Peer communication technology, through a central computer with Aurora® desktop software, or via the internet with our eAurora® web service, or both for that matter
- Hardwire ready configuration allows for quick and inexpensive installation of communication between satellites

### SATELLITE CONTROLLER

- Multilingual user interface
- Enable and disable commands with delay timer
- User-selectable, 12-hour or 24-hour clock format
- Semi-automatic, manual and delayed manual station control
- Global, controller/satellite, program water budgeting from 0-999%
- Open, Overload and short-circuit protection
- User-selectable Water Budget or ET-adjusted control for each irrigation schedule/program
- Master valves (2 N/C and 2 N/O) and local and remote pump capabilities and pump start
- Accommodates up to two sensors and shares an additional 4 sensors across a network [AUR only & ALT requires an AIU module to share network data]
- Flow monitoring and reporting of over-flow or under-flow condition

- Generates alarms, flow and status reports which can be transmitted to a user-defined location and/or stored in the local alarm log
- Pedestal units can be configured for 96 traditional stations, or 250 decoder addresses (6 valve modules max. within a pedestal)
- Wall-mount units can be configured for 48 traditional stations, or 250 decoder addresses (3 valve modules max. within a wall mount)
- Manages 128 fully independent, customized schedules/programs [ALT has 32 fully independent, customized schedules/programs]
- Each schedule/program has 8 start times and can accommodate up to 48 events; stations can be run in any sequence and you have the capability to run the same station multiple times within the same schedule/program, each with a different run time if needed
- Programs can be linked to start when another program ends—from any satellite on the network [AUR only]
- Each schedule/program has a completely independent watering calendar which can be All Months, Months, Weeks, Odd/Even or interval up to 99 days
- Virtually unlimited flexibility for specific cycle scheduling/programming
- Multiple repeats and pauses within a schedule/program
- Suitable for hybrid applications where two-wire systems and traditional wired systems coincide

### NETWORK COMMUNICATIONS OPTIONS

- Hardwire (Standard)
- Digital Spread Spectrum Radio (License Free) [900 MHz and 2.4 GHz]
- Ethernet Modem

### REMOTE COMMUNICATIONS OPTIONS

- Handheld Maintenance Radio [VHF]
- Landline
- Cellular Phone (CDMA and GSM)
- Ethernet Modem

#### Note:

*Other options available — options vary by location; check with your local Signature Regional Manager*

**Summary Features List**

**COMMUNICATION FEATURES**

**SATELLITES (24VAC)**

AURORA LT™ AURORA RT™ AURORA®

**SATELLITES (2-Wire)**

AURORA LT™ AURORA RT™ AURORA®

Peer-to-Peer Communication



**PROGRAMMING FEATURES**

Number of Zones (Wall Mount)

8-48

8-48

8-48

250

250

250

Number of Zones (Pedestal)

8-96

8-96

8-96

250

250

250

Remote Master Valve / Pump Starts



Master Valve / Pump Starts

1 N/O

4 N/O or N/C

2 N/O, 2 N/C

1 N/O

4 N/O or N/C

2 N/O, 2 N/C

Number of Independent Programs Per Controller

32

32

128

32

32

128

Start Times per Program

8

16

8

8

16

8

Multiple Start Types per Program



Events per Program

48

64

48

48

64

48

Real Time Flow Sensing



**SENSOR FEATURES**

Local Sensors per Satellite

2

0

2

2

0

2

Remote Sensors per Satellite

4

4

Sharing of Sensor Data - from Interface Unit



Coming Soon



Sharing of Sensor Data - from any Satellite



**DECODER OPTIONS**

**LOW POWER TYPE**

**AD-111LP:** Low Power Field Decoder;

1- address, 1-solenoid

**AD-121LP:** Low Power Field Decoder;

2- addresses, 1-solenoid per address

**STANDARD DECODER TYPE**

**AD-112:** Field Decoder;

1- address, up to 2-solenoid per address

**AD-122:** Field Decoder;

2- addresses, up to 2-solenoids per address

**AD-111:** Field Decoder;

1- address, 1-solenoid

**AD-132:** Field Decoder;

3- addresses, up to 2-solenoids per address

**AD-142:** Field Decoder;

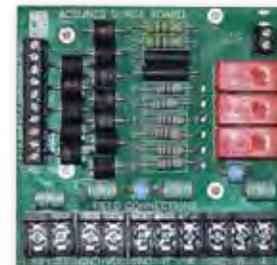
4- addresses, up to 2-solenoids per address

**2-WIRE ACCESSORIES**

**ACDECI:** 125-Zone Decoder Modulator Board

**ADPROG:** Decoder Field Programmer

**TWSPK:** Decoder Surge Protection Kit



**CERTIFICATIONS:**



Part 15 Class B compliant



# GOLF SATELLITE CONTROLLERS

**Aurora-RT™** 



**Wall Mount Enclosure**



**Plastic Pedestal Enclosure**

## SPECIFICATIONS

### DIMENSIONS (H X W X D)

#### Wall Mount

18" (46 cm) x 14" (36 cm) x 4¼" (36 cm)

### CERTIFICATIONS:



## FEATURES & BENEFITS

### REMOTE ACCESS

- Aurora-RT™ is accessible from any internet capable computer anywhere in the world
- Compatible with our Signature Share™ platform as well as remotely controlled via iOS devices or SmartPhones.
- Remotely monitor sites from one location or an infinite number of locations
- All programs are stored in the controller once downloaded, and are available 24/7 on our secure server

### COST EFFECTIVE

- Aurora-RT™ requires no expensive desktop software purchases or support plans
- Eliminates the need for dedicated irrigation computer and extended service plans
- Abolishes time consuming software upgrades and related programming

### EASY TO USE

- Aurora-RT™ requires no extensive backups; we handle all upgrades, support and maintenance
- Upgrades are uploaded seamlessly; when you log on they are ready
- Menus are user friendly and intuitive using graphical user interface

### WEATHER-BASED IRRIGATION SCHEDULING (ET) [OPTIONAL SERVICE]

- Aurora-RT™ uses real-time weather data (ET) and transmits it to each controller
- SmartWater programming allows the controller to precisely irrigate each micro climate individually by programming all agronomical attributes of the irrigated landscape, saving water, time, and expense
- Eliminates requirement to purchase a weather station or other weather services

**Note:**

Data rates may apply given site geography, region of the world and Local Service Providers.

## HOW IT WORKS

- **Aurora-RT™** is an internet-based central control system used for golf course applications.
- Communicates with Aurora-RT™ irrigation field controllers exclusively using cellular connectivity, and allows management the controller from anywhere in the world via the internet or smart phone.
- Along with all the advantages of internet-based access to remote irrigation field controllers, Aurora-RT™ provides a weather-based irrigation scheduling option.
- Location-specific weather data (ET) is delivered daily to irrigation controllers which allow the realization of quantifiable water savings and reduced operational costs.
- Smart watering software via the Signature Share™ platform makes the Aurora-RT™, a very powerful controller right out of the box. Truly a plug and play controller; no complex radio site surveys or hardware installation expense. (May require a cellular data plan from your local carrier.)





# CONTROLLER CONFIGURATOR



# SATELLITE CONTROLLERS OPTIONS

## ENCLOSURE OPTIONS

### Plastic Pedestal:

- Black Granite, Green Granite, Gray Granite, Tan

### Wall Mount:

- Large (Indoor/Outdoor Mount), Gray Only

### Heavy-Duty Stainless Steel:

- Top Opening or Front Opening

## SENSOR OPTIONS

Accepts both Pulse (standard) and 4-20mA (optional equipment required) sensors

### Pulse Sensors:

- ET Gauge
- Tipping Rain Bucket
- Rain Switch
- Flow Meter
- Frost /Temperature
- Any On/Off or Active/Non-Active

### 4-20mA Sensors:

- Soil Temperature
- Soil Moisture
- Flow
- Pressure

## VALVE MODULE OPTIONS

A style = 16 station (small terminals)

B style = 8 station (large terminals)

C style = 16 station

(large terminals, pedestals only)

D style = 125 address decoder

## ELECTRICAL

### Input Power

- 110/117VAC, 60 Hz or 220/240VAC, 50 Hz
- 0.20 Amps @ 115 VAC, 60 Hz (no load)
- 0.80 Amps @ 115 VAC, 60 Hz (max. load)

### Station Output Power

- 24VAC (120VA) total
- Station draw: max. 3 solenoids per station,
- 14 stations simultaneously (max. 3.2 Amps)

## DIMENSIONS (H X W X D)

### Metal Wall Mount

- 18" (46 cm) x 14" (36 cm) x 4¼" (36 cm)

### Plastic Pedestal

- 45" (114 cm) x 16" (41 cm) x 11½" (30 cm)



Plastic Pedestal Color Options

Heavy-Duty  
Stainless Steel Pedestal  
(Top Opening Style)



Plastic Pedestal front view  
with 32 stations  
(2 C modules x 16 stations per module = 32)



Plastic Pedestal back view  
(Showing the field wiring connections)

HOW TO ORDER

CONTROLLER PART NUMBER GRID:

**CON** **S** **PE** **B** **I** **A** **P** **016** **H** **0**

**Product Line:**  
**AUR** = Aurora Full Version Firmware  
**ALT** = AuroraLT Lite Version Firmware  
**AUT** = AuroraRT  
**GRT** = GalaxyRT  
**CON** = Constellation Full Version Firmware  
**GAL** = Galaxy Lite Version Firmware  
**AIU** = Aurora Interface Unit  
**CIU** = Constellation Interface Unit

**Product Brand:**  
**S** = Signature Control Systems

**Controller Enclosure:**  
**PE** = Plastic Pedestal  
**LW** = Large Wall Mount  
**SW** = Small Wall Mount  
**HT** = Heavy Duty Stainless Steel Top Entry  
**HF** = Heavy Duty Stainless Steel Front Entry

**Enclosure Color:**  
**B** = Black Plastic  
**G** = Green Plastic  
**Y** = Gray Plastic or Wall Mount  
**T** = Tan Plastic

**Transformer Power:**  
**1** = 110  
**2** = 220v  
**S** = Solar Powered

**Valve Module Type:**  
**A** = 16 Station Valve Module (Small Terminals)  
**B** = 8 Station Valve Module (Large Terminals)  
**C** = 16 Station Valve Module (Large Terminals - Pedestals Only)  
**D** = 125 Address Decoder Module  
**O** = None

**Valve Module Surge Protection:**  
**P** = Premium Surge Protection  
**S** = Standard Surge Protection

**Valve Module Station Count:**  
**000** = Zero Stations  
**008** = 8-Stations  
**016** = 16-Stations  
**024** = 24-Stations  
**032** = 32 Stations  
**040** = 40 Stations  
**048** = 48 Stations  
**056** = 56 Stations  
**064** = 64 Stations  
**072** = 72 Stations  
**080** = 80 Stations  
**088** = 88 Stations  
**096** = 96-Stations  
**Decoder Option:**  
**125** = 1 - Decoder Modulator  
**225** = Dual 125-Decoder Configuration  
**250** = 2-Modules

**Network Communications:**  
**H** = Hardwire (standard)  
**U** = UHF Network Modem  
**S** = Spread Spectrum USA / Access Point Radio  
**I** = Spread Spectrum International  
**E** = Ethernet Network Modem  
**X** = No Access Point Radio

**Remote Communications:**  
**0** = None  
**1** = VHF Remote Modem  
**2** = Telephone Land Line Modem (firmware 5.3 or lower)  
**3** = GSM Cellular Phone Modem for SMS Applications (firmware 5.3 or lower)  
**4** = Cellular Data Modem for Global GSM Web Applications (USA)  
**5** = Cellular Modem for Global CDMA Web Applications  
**6** = Ethernet Modem  
**7** = Cellular Data Modem for (CANADA)  
**8** = Cellular Data Modem for (EUROPE/INTERNATIONAL)  
**9** = Cellular Data Modem for (LATIN AMERICA)

**Example:** Constellation Signature series controller in a black plastic pedestal with 110 volt transformer, using 16 station small terminal valve modules with premium surge protection, 16 stations with hardwire communications and no remote access. The final part number would be: **CONSPBIAPO16H0**

**NOTE:** Not all combinations are available. Check with your local distributor for details.

# CENTRAL CONTROL



COMMERCIAL  
CENTRAL  
CONTROLS

COMMERCIAL/TURF

Summary Features List	iOS Share™	WEB Share™	WEB eConstellation® LITE	WEB eConstellation® PRO	DESKTOP Constellation® Professional
<b>APPLICATIONS</b>					
Residential	✓	✓	✓		
Commercial / Municipal	✓	✓	✓	✓	✓
<b>STANDARD FEATURES</b>					
Remote Access from any Internet Computer		✓	✓	✓	✓
24/7 Availability	✓	✓	✓	✓	✓
Automatic Software Upgrades	✓	✓	✓	✓	✓
Satellite Firmware Upgrades	✓	✓	✓	✓	✓
Automatic Data Backups	✓	✓	✓	✓	✓
ET Based Scheduling [Web or W/S]	Web	Web	Web	Web	W/S
Multi-level Access with Passwords	✓	✓	✓	✓	✓
Real-Time 2-Way Communication			✓	✓	✓
Compatible with all EZ PRO® 8600 Series Controllers		✓	✓		
Compatible with all Galaxy™ Satellites			✓	✓	✓
Compatible with all Constellation® Satellites			✓	✓	✓
Compatible with Radio Networks			✓	✓	✓
Compatible with Hardwire Networks			✓	✓	✓
Compatible with Web Based Networks	✓	✓	✓	✓	✓
Compatible with Decoder Networks	✓	✓	✓	✓	✓
<b>NETWORK SOFTWARE FEATURES</b>					
Manual Operation	✓	✓	✓	✓	✓
Rain Shutdown	✓	✓	✓	✓	✓
Programming	✓	✓	✓	✓	✓
Budget Adjust	✓	✓	✓	✓	✓
Report Generation	✓	✓	✓	✓	✓
Controller Setup	✓	✓	✓	✓	✓
Graphical Map				✓	✓
Group Programming	✓	✓		✓	✓
Flow Management				✓	✓
Projected Flow (Dry Run)				✓	✓

COMMERCIAL  
CENTRAL  
CONTROLS

# PRODUCT OVERVIEW - COMMERCIAL

## Online Central Control (web based)

The eSignature® Series of Online Central Control or Online Management Systems are internet-based central control system for irrigation control and water management. Communicating with remote irrigation field controllers with wireless connectivity, and allows you management of sites from anywhere in the world via the internet.

Along with all the advantages of internet-based access to remote irrigation field controllers, the eSignature® Series of internet based central control provides optional weather-based irrigation scheduling. Location-specific weather data (ET) is delivered daily to irrigation controllers which allow the realization of quantifiable water savings and reduced operational costs.

### SIGNATURE SHARE™



- **Signature Share™** control all Signature® devices that are compatible with the Share platform.
- No need for expensive computers or software to control irrigation controllers.
- Easily connect to your controllers from anywhere.
- Access to every controller function available on the web.
- Smart Watering wizard to quickly guide you to the most efficient watering.

### eCONSTELLATION® LITE



- **eConstellation® Lite** is accessible from any internet capable computer anywhere in the world
- Requires no expensive desktop software purchases or support plans
- Eliminates need for dedicated irrigation computer and extended service plans
- Abolishes time consuming software upgrades and related programming

### eCONSTELLATION® PRO



- **eConstellation® Pro** flow manages from anywhere and downloads to your satellite network
- Remotely monitor sites—across the city, state, or world—from one location or an infinite number of locations
- All programs and site data are stored in your personal and secure eConstellation® account
- Multi-user environment with multi-level passwords and access controls

COMMERCIAL  
CENTRAL  
CONTROLS

**Online Central Control (web based continue)**

**iOS – iPhone® & iPad® App**



WaterSense labeled only when this product is used with the Signature Share Intelligent Package

- Control all Signature® devices that are compatible with the Share platform.
- No need for expensive computers or software to control irrigation controllers.
- Easily connect to your controllers from anywhere.
- Access to every controller function available on the web.
- Smart Watering wizard to quickly guide you to the most efficient watering.
- Interface designed specifically for easy use on the go.
- Works on all Apple devices newer than iPhone® 3G and iOS 4.2 +.

**Desk Top Central Control (PC based)**

**Constellation® Professional** software is the classical Personal Computer (PC) based system for irrigation control and water management. It has the capability of Manual Programming, Group Programming

and Flow Managed Programming. It works with local Weather Stations and Environmental Sensors for programming and scheduling.

**CONSTELLATION® PROFESSIONAL**



- Works with your existing Constellation® network
- Works with hardwire, local radio, or any hybrid version
- Works with traditional valves, decoders, or any combination of the two
- Flow Management: Limits flow within the irrigation system to eliminate the possibility of excessive demand placed on the pumps and piping; Capable of determining the most efficient distribution of water flow within specific limitations set by the operator.

**CONSTELLATION® Interface Unit**



- The **Constellation® Interface Unit** is the interface between the Constellation® Desktop Software and the Constellation® controllers in the field.
- All controllers are intelligent and smart; meaning, they don't need constant contact with central computers or expensive software packages to operate.
- Not just an interface, but also a controller; can operate standard wired 24VAC solenoids or 2-wire decoders operating 24VAC solenoids.
- Available in several languages.
- Remote control of stations located in remotely located Constellation® controllers from anywhere on the Signature® network, via Signature's peer-to-peer technology.
- Perfect for sites that are under construction or the As-Built design is incomplete; program the site via the Interface Unit and once the design is loaded on the desktop, upload all the programs from the field and you are ready.
- Constellation® is easy to operate with flexible configuration and communication options.

**\* SCS Share Website System Requirements**

- Supported Browsers (JavaScript Enabled):**
- Internet Explorer 9+
  - Mozilla Firefox 24+
  - Google Chrome 30+
  - Safari 5+

- Other Requirements:**
- Adobe Flash Player
  - Best viewed at 1024 x 768 or higher resolution



# SIGNATURE SHARE™ - COMMERCIAL/TURF

## SIGNATURE SHARE™ for 8600 Controllers

**SHARE8600W!** 

Communication board



## HOW IT WORKS

**SIGNATURE SHARE™** is an internet-based central control system used with SIGNATURE SHARE™ compatible products. It communicates with SIGNATURE SHARE™ irrigation field controllers using cellular connectivity, and allows management of controller from anywhere in the world via the internet.

Along with all the advantages of internet-based access to remote irrigation field controllers, SIGNATURE SHARE™ provides a weather-based irrigation scheduling option. Location-specific weather data (ET) is delivered daily to irrigation controllers which allows the realization of quantifiable water savings and reduced operational costs. The exciting features of SIGNATURE SHARE™ can be added to all SIGNATURE SHARE™ compatible products, without any changes to the controller other than the addition of a single communications modem board. (May require a cellular data plan from your local carrier.)

**\* SCS Share Website System Requirements**

**Supported Browsers (JavaScript Enabled):**

- Internet Explorer 9+
- Mozilla Firefox 24+
- Google Chrome 30+
- Safari 5+

**Other Requirements:**

- Adobe Flash Player
- Best viewed at 1024 x 768 or higher resolution

## FEATURES & BENEFITS

### REMOTE ACCESS

- SIGNATURE SHARE™ is accessible from any internet capable computer anywhere in the world
- Remotely monitor sites from one location or an infinite number of locations
- All programs are stored in the controller once downloaded, and are available 24/7 on our secure server

### COST EFFECTIVE

- SIGNATURE SHARE™ requires no expensive desktop software purchases or support plans
- Eliminates need for dedicated irrigation computer and extended service plans
- Abolishes time consuming software upgrades and related programming

### EASY TO USE

- SIGNATURE SHARE™ requires no extensive backups; we handle all upgrades, support and maintenance
- Upgrades are uploaded seamlessly; when you log on they are ready
- Menus are user friendly and intuitive using graphical user interface

### WEATHER-BASED IRRIGATION SCHEDULING (ET) [OPTIONAL SERVICE]

- SIGNATURE SHARE™ uses real-time weather data (ET) and transmits it to each controller
- Smart controller functions save water, time, and expense
- Eliminates requirement to purchase a weather station or other weather services
- The addition of a SIGNATURE SHARE™ communications board makes your existing or new SIGNATURE SHARE™ controller live on the web
- SIGNATURE SHARE™ accesses any new or existing SIGNATURE SHARE™ compatible products with the addition of a single communications board

### SMART WATERING APPLICATION

- Configure site agronomics to effectively control irrigation.
- Uses state of the art ET tracking data to replenish crop demands.
- By operating in this mode, eliminates the expense and maintenance of remote sensors or weather stations.
- Totally seamless downloading of ER data and together with site data, will only apply the required irrigations needs ... not anything more.
- No need for expensive computers or software to control irrigation controllers.

### STANDARD WATERING APPLICATION

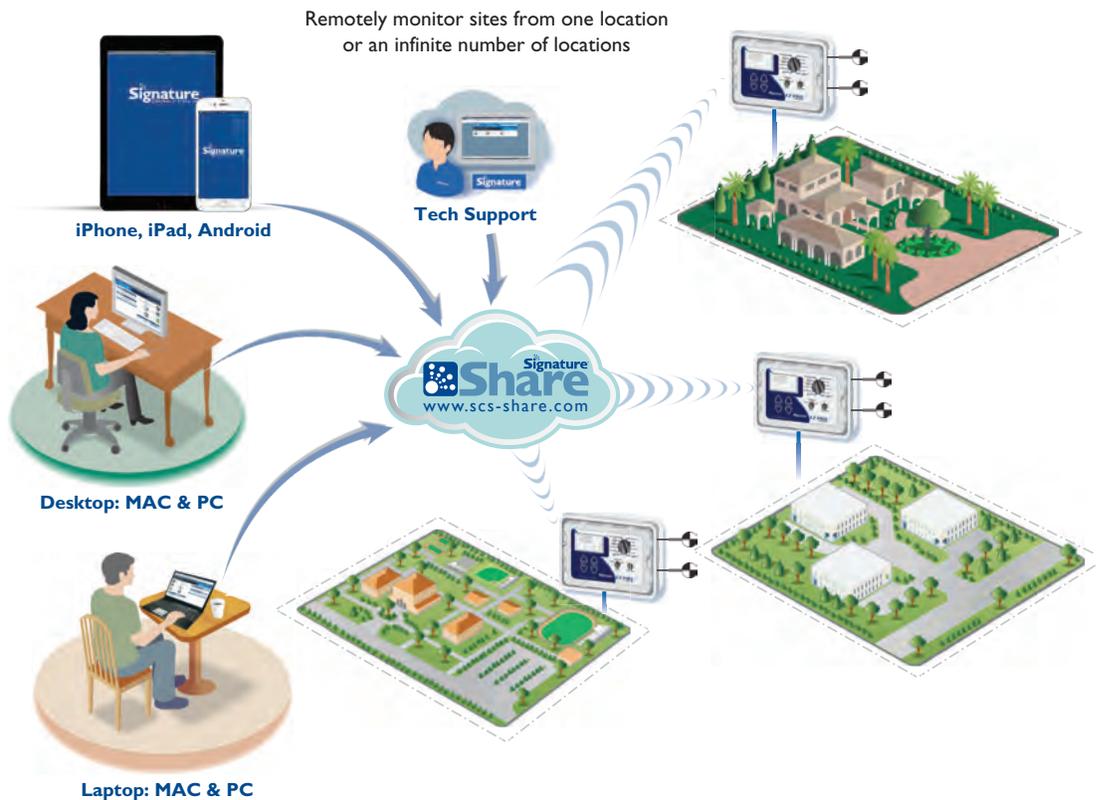
- Operate the controller from the ease of your iPhone® or iPad;® no complicated manuals or frustrations.
- Simple programming tools effectively guide through setup and operation.
- Integrates with optional ET download for automatic updating of programs.
- Web based software means always the most current user interface.
- Available in multiple languages.

USAGE EXAMPLE: SIGNATURE SHARE™ — Single User / Single Site



SIGNATURE SHARE is accessible from any internet capable computer anywhere in the world

USAGE EXAMPLE: SIGNATURE SHARE™ — Multiple Users / Multiple Sites



COMMERCIAL  
CENTRAL  
CONTROLS



# eCONSTELLATION® LITE/PRO

**eConstellation® LITE**

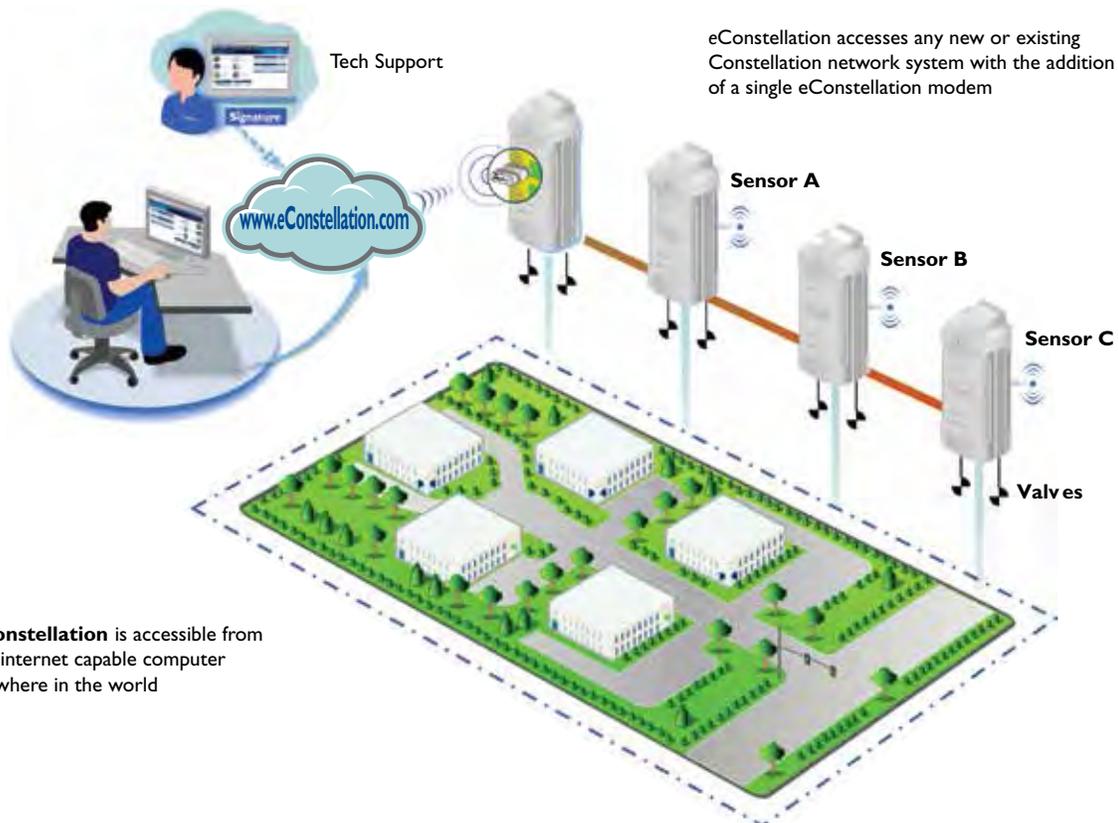
**eConstellation® PRO**

## HOW IT WORKS

**eConstellation®** is an internet-based central control system for use with Constellation® and Galaxy™ Series controllers. It communicates with remote irrigation field controllers using wireless connectivity, and allows management of controller from anywhere in the world via the internet. Along with all the advantages of internet-based access to remote irrigation field controllers, eConstellation® provides a weather-based irrigation scheduling option.

Location-specific weather data (ET) is delivered daily to irrigation controllers which allow the realization of quantifiable water savings and reduced operational costs. The exciting features of eConstellation® can be added to all Constellation® and Galaxy™ Series controllers and networks without any changes to the controller other than the addition of a single communications modem board. (May require a cellular data plan from your local carrier.)

## USAGE EXAMPLE: eConstellation® — Single User / Multiple Controller Site



eConstellation is accessible from any internet capable computer anywhere in the world

COMMERCIAL  
CENTRAL  
CONTROLS

## FEATURES & BENEFITS

### REMOTE ACCESS

- eConstellation® is accessible from any internet capable computer anywhere in the world
- All programs and site data are stored on our secure server and available 24/7
- Remotely monitor sites - across the city, state, or world - from one location or an infinite number of locations
- All programs and site data are stored in your personal and secure eConstellation® account
- Multi-user environment with multi-level passwords and access controls
- Operate on iOS Share

### COST EFFECTIVE

- eConstellation® requires no expensive desktop software purchases or support
- Eliminates need for dedicated irrigation computer and extended service plans
- Abolishes time consuming software upgrades and related programming
- Billing is available in annual or monthly installments
- For seasonal users, access fees are waived during "off" months

### EASY TO USE

- eConstellation® requires no extensive backups; we handle all upgrades, support and maintenance
- Upgrades are uploaded seamlessly; when you log on they are ready
- Menus are user friendly and intuitive using graphical user interface
- On-screen help menus provide user with detailed instructions for simple set-up and fast launch
- Online trouble shooting to read alarms, events, and flow meters

### WEATHER-BASED IRRIGATION SCHEDULING (ET) [OPTIONAL SERVICE]

- eConstellation® uses real-time weather data (ET) and transmits it to each controller in your network
- Smart controller functions save water, time, and expense
- Eliminates requirement to purchase a weather station or other weather services
- Removes any vandalism and maintenance issues with weather stations and sensors
- Irrigate using ET from installation of first controller

### HIGH PERFORMANCE:

- eConstellation® accesses any new or existing Constellation® network system with the addition of a single eConstellation® modem
- Enjoy the same power and performance of your Constellation® networks with no hardware modifications
- Only one access point is required in each Constellation® network
- Hardwire, radio, fiber optic or Ethernet communications can be combined on the same network
- Flexible programming operates lighting, fountains, security gates and locks, etc
- The addition of an eConstellation® web modem makes your existing or new Constellation® network on the web
- eConstellation® accesses any new or existing Constellation® controller network with the addition of a single GPRS modem

### FLOW MANAGEMENT (PRO VERSION ONLY):

- All the features of Lite PLUS the ability to flow manage your site
- Optimizes water usage over multiple controller site
- Checks to see that watering fits within water window
- Graphical representation of flow for ease of verification
- Irrigation is easily scheduled to meet complex watering parameters

# eCONSTELLATION® LITE eCONSTELLATION® PRO

## USAGE EXAMPLE: eConstellation® — Multiple Users / Multiple Controller Sites with Multiple Satellites

**eConstellation** accesses any new or existing Constellation network system with the addition of a single **eConstellation** modem



Tech Support



Remotely monitor sites - across the city, state, or world - from one location or an infinite number of locations

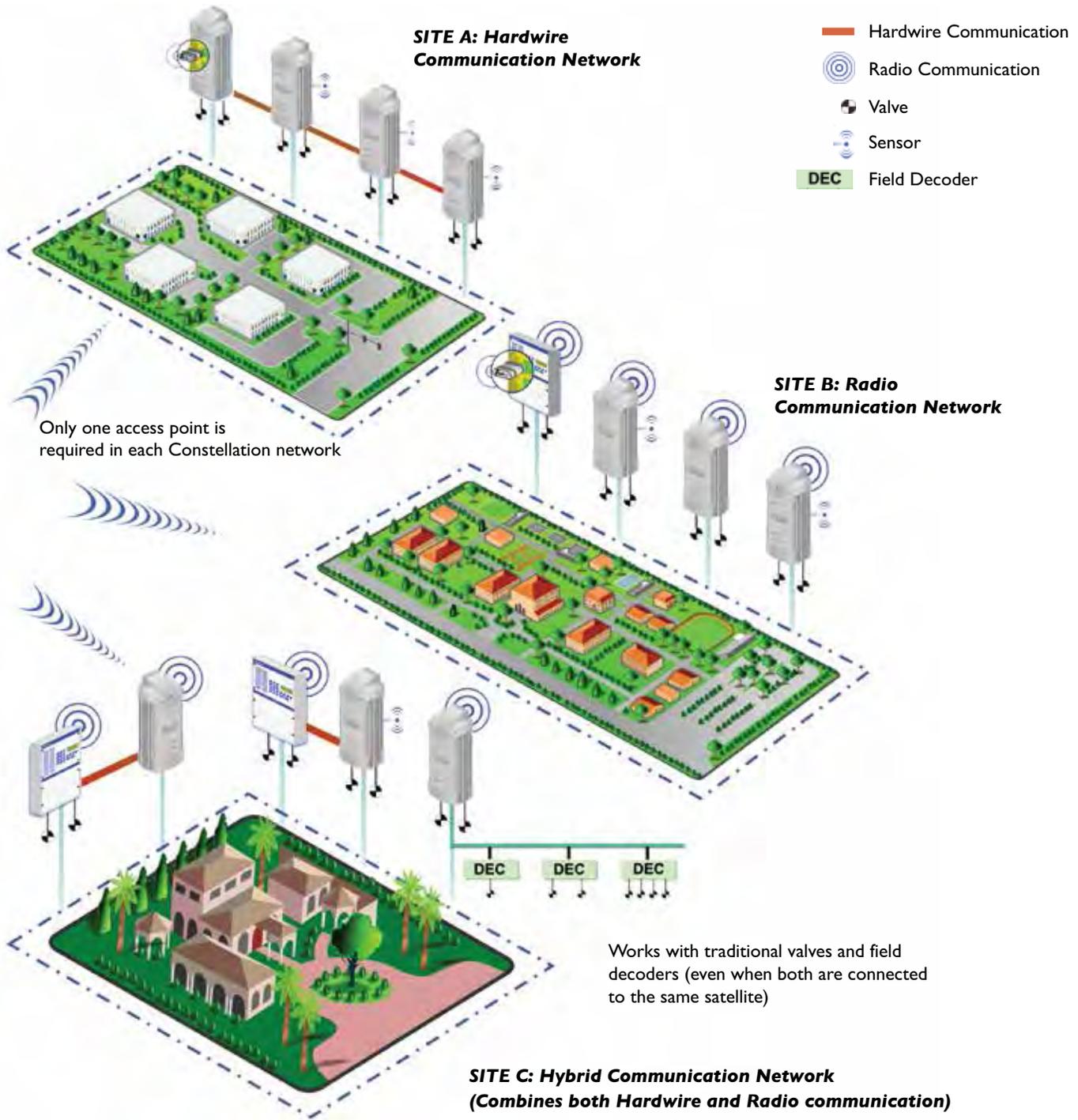


Multi-user environment with multi-level passwords and access controls



eConstellation requires no extensive backups; we handle all upgrades, support and maintenance

COMMERCIAL  
CENTRAL  
CONTROLS



# CONSTELLATION® PROFESSIONAL

## Constellation® Professional

### HOW IT WORKS

**Constellation® Professional** is the traditional-type of central control system for use with Constellation® and Galaxy™ Series controllers. It communicates with remote irrigation field controllers using hardwire, local radio (900MHz or 2.4 GHz Digital Spread Spectrum), Ethernet, and allows management of satellite controllers from one irrigation computer with irrigation software resident on the computer. The features of Constellation® Professional can be added to all Constellation® and Galaxy™ Series controllers and networks without any

changes to the controller or network. All that is required is (a) an Interface Unit located in close proximity to the irrigation computer to facilitate the field connection, or (b) an Ethernet connection and Ethernet modem in one of the Satellite controllers in the Constellation® network. Constellation® Professional provides weather-based irrigation scheduling option using a local weather station. ET data is delivered daily to irrigation controllers which allow the realization of quantifiable water savings and reduced operational costs.

### USAGE EXAMPLE: Constellation® Professional — Single User / Multiple Controller Site



## FEATURES & BENEFITS

### NETWORK COMMUNICATION – UNLIMITED OPTIONS

Communication options for Constellation® Networks include hardwire, local radio (900 MHz and 2.4 GHz digital spread spectrum radio), cellular phone, Ethernet, fiber-optics, Wi-Fi and others. (Not all options are available in all areas. Contact your local dealer for options available for your specific area.)

### CENTRAL COMMUNICATION – STANDARD AND REMOTE OPTIONS

Communications options between the central irrigation computer and the Constellation® satellite controllers include all those listed above PLUS the ability to access the network from anywhere in the world where you can get an internet connection from your computer.

### SHARE PLATFORM

Integrates peripheral products such as sensors, battery actuated valves into the system, making a vast network of control options. Merges the power of peer-to-peer to smart valves and improved water management. Reduces installation costs by reducing the amount of copper & trenching. Powerful cross-pollination abound with integration of Signature Share™ platform for future expansion opportunities.

### NETWORK MONITORING – ROBUST INTELLIGENCE

The Constellation® network monitors itself continuously and can make use of six sensor inputs per satellite controller (2 direct; 4 indirect). The satellite controllers can monitor and adjust to flow, rain (on/off), rain fall adjustments, wind, moisture, temperature or virtually any other sensor to adjust and take action in real time... without the need for the central computer to even be on.

### SOFTWARE FEATURES (PARTIAL LIST)

- Graphical User Interface
- Weather station monitoring for automated ET-adjusted irrigation schedule
- Automated ET (with optional equipment)
- Flow Management

- Event Calendar Scheduling
- Manual station control
- Dry Run and monitor irrigation water windows
- Operates lighting, fountains, security gates, etc.
- English and metric units
- Multilingual instructions

### REMOTE OPTION

Untether your control! Move to a laptop and an Ethernet modem in one of your Constellation® network satellite controllers and use your computer anywhere in the world where you can get to the Internet. STANDARD!

### CONTROL FEATURES

Irrigation cycles are easily scheduled to meet varying and complex watering requirements. Cycles can be scheduled with some of the following:

- Standard Start Times
- Stop Times
- Link Start Times
- Water Days
- Intervals
- Program Specific Water Budget
- Controller Specific Water Budget
- Sequential or Parallel Start Event Operation
- Automatic ET Control
- Sensor Starts or Stops or Pauses

### OTHER FEATURES

Self-monitoring feature finds open/short circuits, activates alarms/pagers, and shuts down automatically if necessary. Hardwire and radio communications can be used on the same network

Independent programming allows control of each station in any sequence, with multiple repeats and pauses.

True two-way communication between central controls and satellites.

### REMOTE TECHNICAL SUPPORT

High-speed technical support from the factory via an internet connection.

# CENTRAL CONTROL - GOLF



GOLF  
CENTRAL  
CONTROLS

GOLF

Summary Features List	iOS Share™	WEB Share™	WEB eAurora® Pro	DESKTOP Aurora® Professional
<b>APPLICATIONS</b>				
Golf Courses	✓	✓	✓	✓
Sports Turf	✓	✓	✓	✓
<b>STANDARD FEATURES</b>				
Remote Access from any Internet Computer		✓	✓	✓
24/7 Availability	✓	✓	✓	✓
Automatic Software Upgrades	✓	✓	✓	✓
Satellite Firmware Upgrades	✓	✓	✓	✓
Automatic Data Backups	✓	✓	✓	✓
ET Based Scheduling [Web or W/S]	Web	Web	Web	W/S
Multi-level Access with Passwords	✓	✓	✓	✓
Real-Time 2-Way Communication		✓	✓	✓
Compatible with all EZ PRO® 8600 Series Controllers	✓		✓	✓
Compatible with all Galaxy™ Satellites	✓	✓	✓	✓
Compatible with all Aurora® Satellites		✓	✓	✓
Compatible with Radio Networks	✓	✓	✓	✓
Compatible with Hardwire Networks		✓	✓	✓
Compatible with Web Based Networks	✓	✓	✓	✓
Compatible with Decoder Networks	✓	✓	✓	✓
<b>SOFTWARE FEATURES</b>				
Manual Operation	✓	✓	✓	✓
Rain Shutdown	✓	✓	✓	✓
Programming	✓	✓	✓	✓
Budget Adjust	✓	✓	✓	✓
Report Generation	✓	✓	✓	✓
Controller Setup	✓	✓	✓	
Graphical Map			✓	✓
Group Programming	✓		✓	✓
Flow Management			✓	✓
Projected Flow (Dry Run)			✓	✓

GOLF CENTRAL CONTROLS

# PRODUCT OVERVIEW - GOLF

## Online Central Control (web based)

The eSignature® Series of Online Central Control or Online Management Systems are internet-based central control system for irrigation control and water management. Communicating with remote irrigation field controllers with wireless connectivity, and allows you management of sites from anywhere in the world via the internet.

Along with all the advantages of internet-based access to remote irrigation field controllers, the eSignature® Series of internet based central control provides optional weather-based irrigation scheduling. Location-specific weather data (ET) is delivered daily to irrigation controllers which allow the realization of quantifiable water savings and reduced operational costs.

### Standard Watering Application



WaterSense labeled only when this product is used with the Signature Share Irrigation Package

- Easily operate your controller from your iPhone® or iPad® from anywhere, web based operation with no complicated manuals.
- Simple programming tools effectively guide through setup and operation.
- Integrates with optional ET download for automatic updating of programs.
- Web based software means always the most current user interface.
- Available in multiple languages soon.

### Smart Watering Application



WaterSense labeled only when this product is used with the Signature Share Irrigation Package

- Configure site agronomics to effectively control irrigation.
- Uses state of the art ET tracking data to replenish crop demands.
- Operating in this mode, eliminates the expense and maintenance of remote sensors or weather stations.
- Totally seamless downloading of ET data and together with site data, will only apply the required irrigation needs ... Nothing more..
- No need for expensive computers or software to control irrigation controllers.

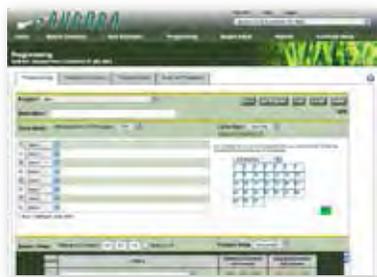
### eAURORA® LITE



- **eAURORA® Lite** is accessible from any internet capable computer anywhere in the world
- Requires no expensive desktop software purchases or support plans
- Eliminates need for dedicated irrigation computer and extended service plans
- Abolishes time consuming software upgrades and related programming

## Online Central Control (web based continue)

### eAURORA® PRO



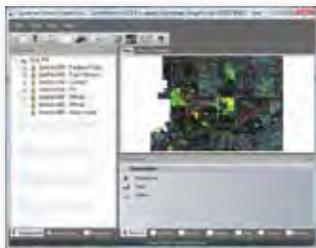
- eAURORA® Pro flow manages from anywhere and downloads to your satellite network
- Remotely monitor sites—across the city, state, or world—from one location or an infinite number of locations
- All programs and site data are stored in your personal and secure eAurora® account
- Multi-user environment with multi-level passwords and access controls

## Central Control (PC based)

**AURORA® Professional** software is the classical Personal Computer (PC) based system for irrigation control and water management. It has the capability of Manual Programming, Group Programming

and Flow Managed Programming. It works with local Weather Stations and Environmental Sensors for programming and scheduling.

### AURORA® PROFESSIONAL



- Works with your existing Aurora® network
- Works with hardwire, local radio, or any hybrid version
- Works with traditional valves, decoders, or any combination of the two
- Flow Management: Limits flow within the irrigation system to eliminate the possibility of excessive demand placed on the pumps and piping; Capable of determining the most efficient distribution of water flow within specific limitations set by the operator.

### AURORA® Interface Unit



- The **Aurora® Interface Unit** is the interface between the Aurora® Desktop Software and the Aurora® controllers in the field.
- All controllers are intelligent and smart; meaning, they don't need constant contact with central computers or expensive software packages to operate.
- Not just an interface, but also a controller; can operate standard wired 24VAC solenoids or 2-wire decoders operating 24VAC solenoids.
- Available in several languages.
- Using Signature's patented peer-to-peer technology you can control stations anywhere on you site remotely.
- Perfect for sites that are under construction or the As-Built design is incomplete; program the site via the Interface Unit and once the design is loaded on the desktop, upload all the programs from the field and you are ready.
- Aurora® is easy to operate with flexible configuration and communication options.

**\* SCS Share Website System Requirements**

**Supported Browsers (JavaScript Enabled):**

- Internet Explorer 9+
- Mozilla Firefox 24+
- Google Chrome 30+
- Safari 5+

**Other Requirements:**

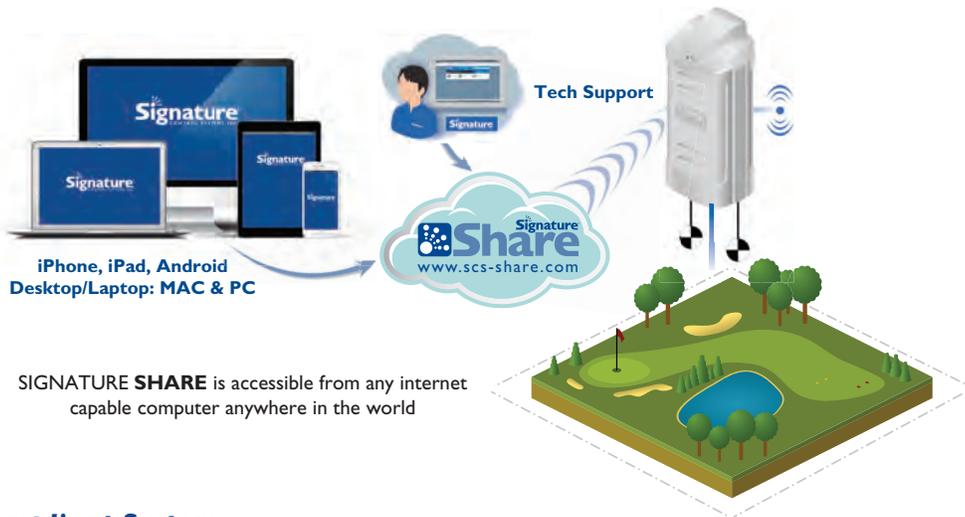
- Adobe Flash Player
- Best viewed at 1024 x 768 or higher resolution



# SIGNATURE SHARE™ - GOLF

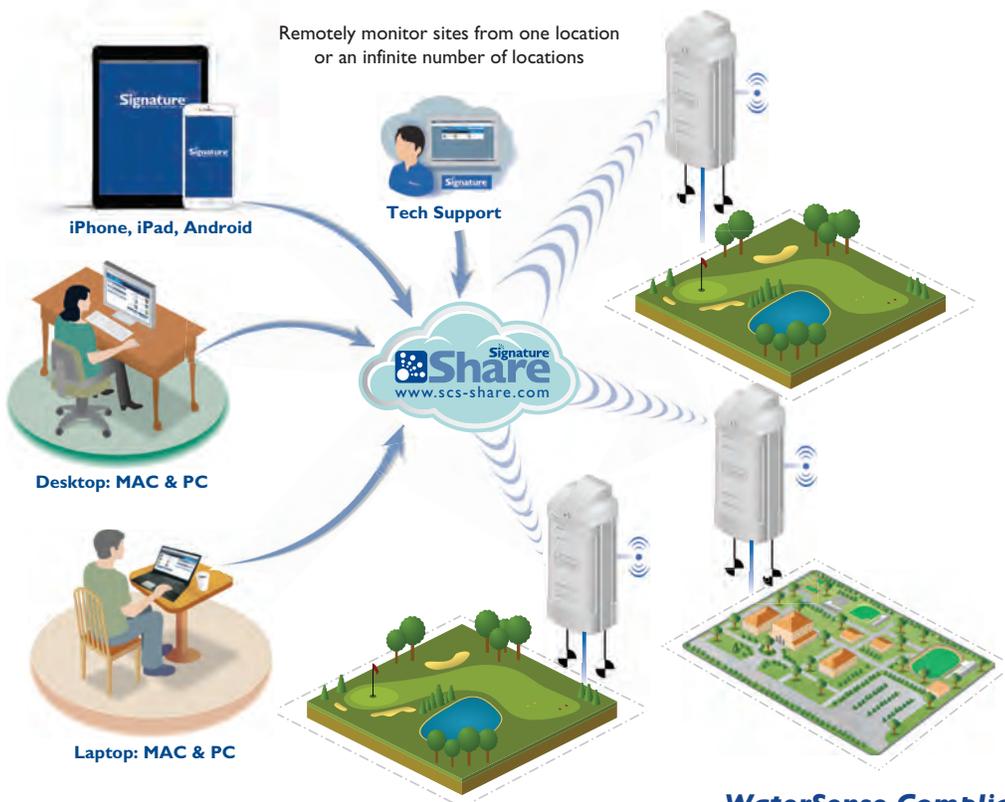
GOLF  
CENTRAL  
CONTROLS

USAGE EXAMPLE: SIGNATURE SHARE™ — Single User / Single Site



WaterSense Compliant System

USAGE EXAMPLE: SIGNATURE SHARE™ — Multiple Users / Multiple Sites



WaterSense Compliant System

GOLF CENTRAL CONTROLS



# eAURORA® LITE/PRO

**eAurora® LITE**

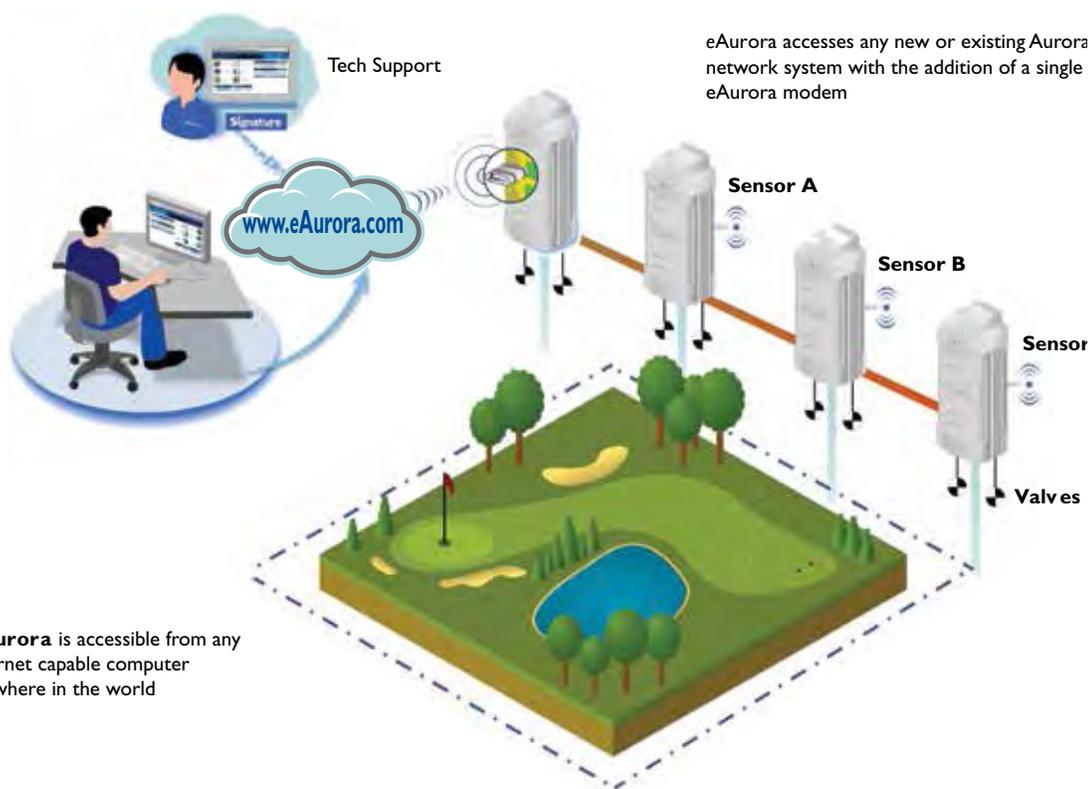
**eAurora® PRO**

## HOW IT WORKS

**eAurora®** is an internet-based central control system for use with Aurora® and AuroraLT™ Series controllers. It communicates with remote irrigation field controllers using wireless connectivity, and allows management of controller from anywhere in the world via the internet. Along with all the advantages of internet-based access to remote irrigation field controllers, eAurora® provides an weather-based irrigation scheduling option. Location-specific

weather data (ET) is delivered daily to irrigation controllers which allow the realization of quantifiable water savings and reduced operational costs. The exciting features of eAurora® can be added to all Aurora® and AuroraLT™ Series controllers and networks without any changes to the controller other than the addition of a single communications modem board. (May require a cellular data plan from your local carrier.)

## USAGE EXAMPLE: eAurora® — Single User / Multiple Controller Site



eAurora is accessible from any internet capable computer anywhere in the world

## FEATURES & BENEFITS

### REMOTE ACCESS

- eAurora® is accessible from any internet capable computer anywhere in the world
- All programs and site data are stored on our secure server and available 24/7
- Remotely monitor sites - across the city, state, or world - from one location or an infinite number of locations
- All programs and site data are stored in your personal and secure eAurora® account
- Multi-user environment with multi-level passwords and access controls

### COST EFFECTIVE

- eAurora® requires no expensive desktop software purchases or support
- Eliminates need for dedicated irrigation computer and extended service plans
- Abolishes time consuming software upgrades and related programming
- Billing is available in annual or monthly installments
- For seasonal users, access fees are waived during "off" months

### EASY TO USE

- eAurora® requires no extensive backups; we handle all upgrades, support and maintenance
- Upgrades are uploaded seamlessly; when you log on they are ready
- Menus are user friendly and intuitive using graphical user interface
- On-screen help menus provide user with detailed instructions for simple set-up and fast launch
- Online trouble shooting to read alarms, events, and flow meters

### WEATHER-BASED IRRIGATION SCHEDULING (ET):

- eAurora® uses real-time weather data (ET) and transmits it to each controller in your network
- Smart controller functions save water, time, and expense
- Eliminates requirement to purchase a weather station or other weather services
- Removes any vandalism and maintenance issues with weather stations and sensors
- Irrigate using ET from installation of first controller

### HIGH PERFORMANCE:

- eAurora® accesses any new or existing Aurora® network system with the addition of a single eAurora® modem
- Enjoy the same power and performance of your Aurora® networks with no hardware modifications
- Only one access point is required in each Aurora® network
- Hardwire, radio, fiber optic or Ethernet communications can be combined on the same network
- Flexible programming operates lighting, fountains, security gates and locks, etc
- The addition of an eAurora® web modem makes your existing or new Aurora® network on the web
- eAurora® accesses any new or existing Aurora® controller network with the addition of a single GPRS modem

### FLOW MANAGEMENT (PRO VERSION ONLY):

- All the features of Lite PLUS the ability to flow manage your site
- Optimizes water usage over multiple controller sites
- Checks to see that watering fits within water window
- Graphical representation of flow for ease of verification
- Irrigation is easily scheduled to meet complex watering parameters

# eAURORA® LITE/PRO

## USAGE EXAMPLE: eAurora® — Multiple Users / Multiple Controller Sites with Multiple Satellites

eAurora accesses any new or existing Aurora network system with the addition of a single eAurora modem

Remotely monitor sites - across the city, state, or world - from one location or an infinite number of locations

Multi-user environment with multi-level passwords and access controls

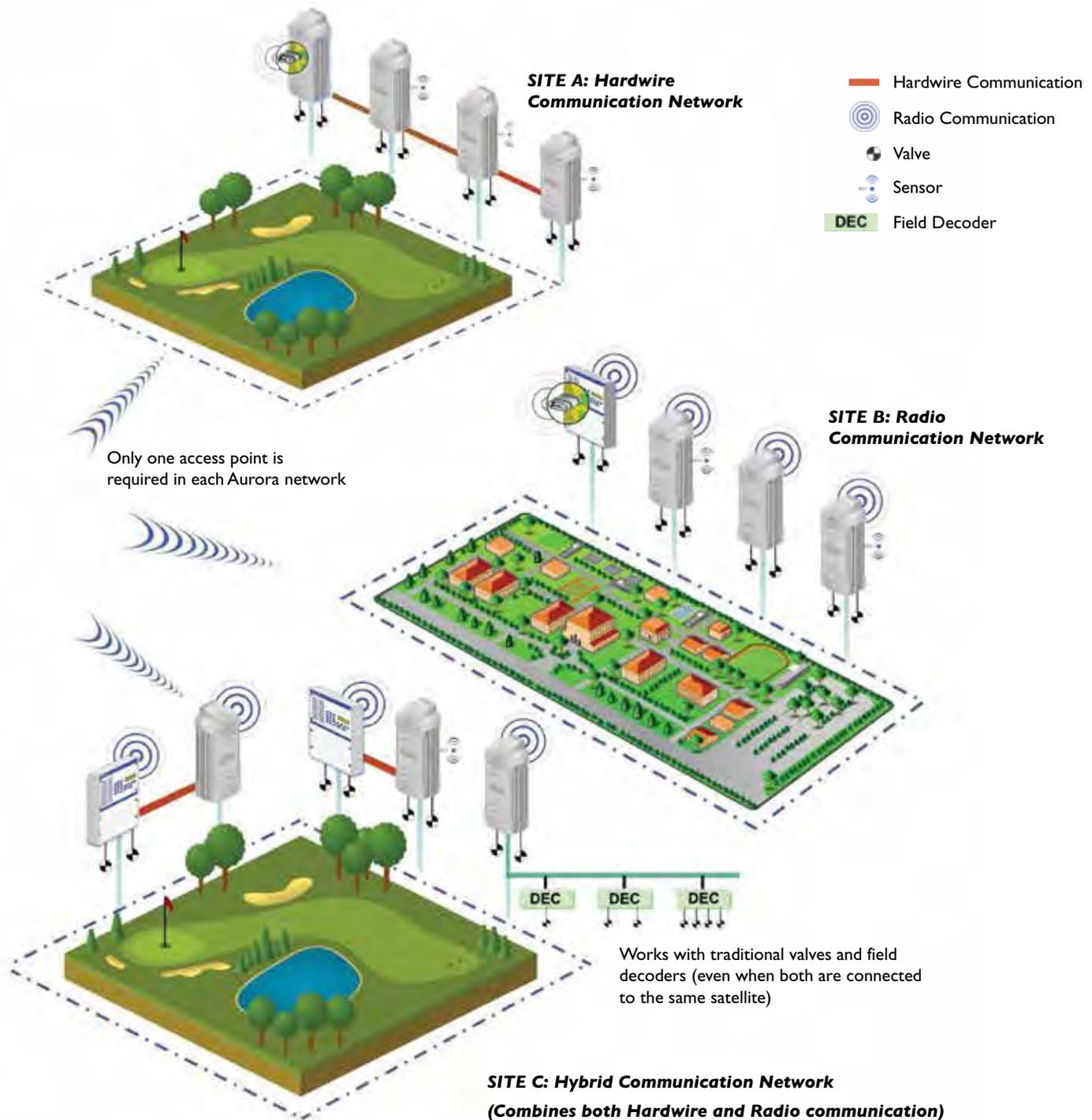


Tech Support



eAurora requires no extensive backups; we handle all upgrades, support and maintenance

GOLF  
CENTRAL  
CONTROLS



# AURORA® PROFESSIONAL

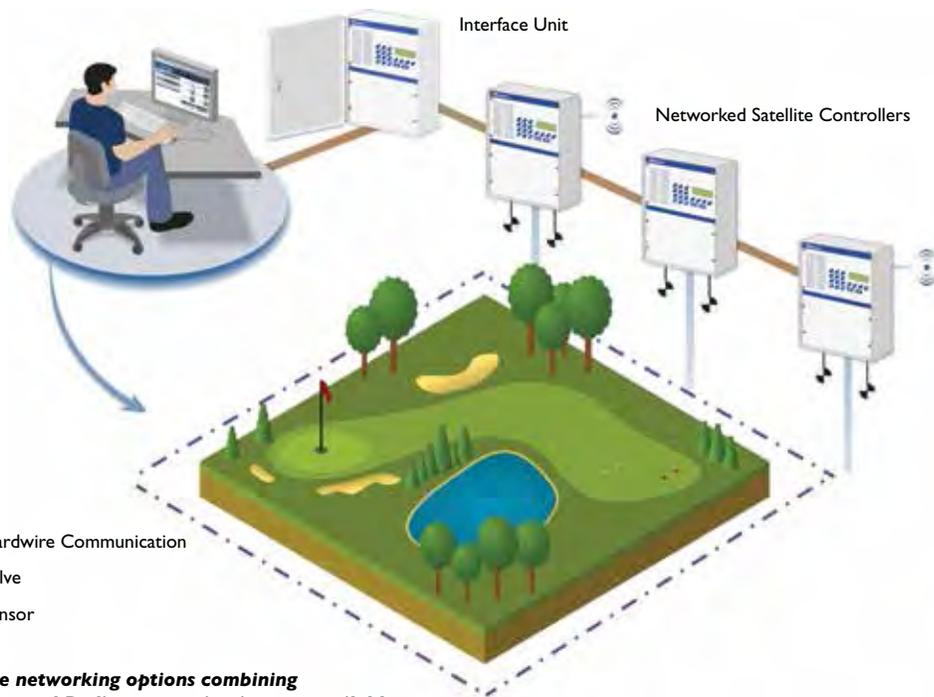
## Aurora® Professional

### HOW IT WORKS

**Aurora® Professional** is the traditional-type of central control system for use with Aurora® and AuroraLT™ Series controllers. It communicates with remote irrigation field controllers using hardwire, local radio (900MHz or 2.4 GHz Digital Spread Spectrum), Ethernet, and allows management of satellite controllers from one irrigation computer with irrigation software resident on the computer. The features of Aurora® Professional can be added to all Aurora® and AuroraLT™ Series controllers and networks without any changes to the controller

or network. All that is required is (a) an Interface Unit located in close proximity to the irrigation computer to facilitate the field connection, or (b) an Ethernet connection and Ethernet modem in one of the Satellite controllers in the Aurora® network. Aurora® Professional provides weather-based irrigation scheduling option using a local weather station. ET data is delivered daily to irrigation controllers which allow the realization of quantifiable water savings and reduced operational costs.

### USAGE EXAMPLE: Aurora® Professional — Single User / Multiple Controller Site



- Hardwire Communication
- ⊗ Valve
- ⊗ Sensor

*Multiple networking options combining Hardwire and Radio communication are available*

## FEATURES & BENEFITS

### NETWORK COMMUNICATION – UNLIMITED OPTIONS

Communication options for Constellation® Networks include hardwire, local radio (900 MHz and 2.4 GHz digital spread spectrum radio), cellular phone, Ethernet, fiber-optics, Wi-Fi and others. (Not all options are available in all areas. Contact your local dealer for options available for your specific area.)

### CENTRAL COMMUNICATION – STANDARD AND REMOTE OPTIONS

Communications options between the central irrigation computer and the Aurora® satellite controllers include all those listed above PLUS the ability to access the network from anywhere in the world where you can get an internet connection from your computer.

### NETWORK MONITORING – ROBUST INTELLIGENCE

The Aurora® network monitors itself continuously and can make use of six sensor inputs per satellite controller (2 direct; 4 indirect). The satellite controllers can monitor and adjust to flow, rain (on/off), rain fall adjustments, wind, moisture, temperature or virtually any other sensor to adjust and take action in real time... without the need for the central computer to even be on.

### SOFTWARE FEATURES (PARTIAL LIST)

- Graphical User Interface
- Weather station monitoring for automated ET-adjusted irrigation schedule
- Automated ET (with optional equipment)
- Flow Management
- Event Calendar Scheduling
- Manual station control
- Dry Run and monitor irrigation water windows
- Operates lighting, fountains, security gates, etc.
- English and metric units
- Multilingual instructions

### REMOTE OPTION

Untether your control! Move to a laptop and an Ethernet modem in one of your Aurora® network satellite controllers and use your computer anywhere in the world where you can get to the Internet. STANDARD!

### CONTROL FEATURES

Irrigation cycles are easily scheduled to meet varying and complex watering requirements. Cycles can be scheduled with some of the following:

- Standard Start Times
- Stop Times
- Link Start Times
- Water Days
- Intervals
- Program Specific Water Budget
- Controller Specific Water Budget
- Sequential or Parallel Start Event Operation
- Automatic ET Control
- Sensor Starts or Stops or Pauses

### OTHER FEATURES

Self-monitoring feature finds open/short circuits, activates alarms/pagers, and shuts down automatically if necessary. Hardwire and radio communications can be used on the same network

Independent programming allows control of each station in any sequence, with multiple repeats and pauses.

True two-way communication between central controls and satellites.

### REMOTE TECHNICAL SUPPORT

High-speed technical support from the factory via an internet connection.

# ROTORS



ROTORS

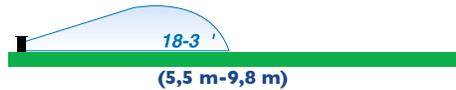
APPLICATIONS	5500	6000	6500	7000	7500	D50/D55	D70/D75
SPACING 18'-32' (5,5 m-9,8 m)	✓						
SPACING 30'-51' (9,2 m-15,6 m)		✓					
SPACING 44'-60' (13,4 m-18,3 m)			✓				
SPACING 41'-63' (12,5 m-19,2 m)				✓			
SPACING 53'-74' (16,2 m-22,6 m)					✓	✓	
SPACING 72'-86' (21,9 m-26,2 m)							✓
RESIDENTIAL	✓	✓					
COMMERCIAL/MUNICIPAL	✓	✓	✓	✓	✓	✓	✓
ATHLETIC FIELDS	✓	✓	✓	✓	✓	✓	✓
HIGH VANDALISM AREAS	✓	✓	✓	✓	✓	✓	✓
LOW PRESSURE SYSTEMS	✓	✓					
RISER MOUNTED	✓	✓					
GROUND COVER/SHRUBS	✓	✓					
RECLAIMED WATER	✓	✓	✓	✓	✓	✓	✓
SLOPES	✓	✓	✓	✓	✓	✓	✓
HIGH ROTATION SPEED			✓		✓		

# PRODUCT OVERVIEW

## 5500



- The 5500 Pro series rotors are constructed of high impact plastic and all internal metal parts are made of stainless steel.
- ¾" (2 cm) inlet
- No tools are required to adjust the arc from 40° – 360° by using the easy to use Click-Set disc.
- This series comes with 4 interchangeable nozzles with a discharge range between 0.5 – 2.5 GPM (0,11 – 0,57 m<sup>3</sup>/hr).

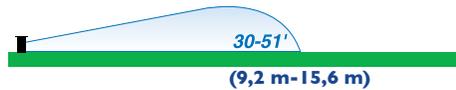


- All models come with a rubber protective cap and an optional vandal resistant retaining screw.
- The built in slip clutch protects the gears and motor from damage when adjusting for a part circle. If the rotor is manually moved out of position it will automatically reset to the defined pattern.
- NIR<sup>2</sup> (Nozzle Insertion / Radius Reduction) eliminates the need to remove the cap while fine tuning the radius and inserting the nozzle.
- 5500 comes in many various styles: shrub head version, heavy duty stainless version, 12" (30,5 cm) high pop version, anti-drain valve (ADV) version and the standard version.

## 6000



- The 6000 Pro series rotors are constructed of high impact plastic and all internal metal parts are made of stainless steel.
- ¾" (2 cm) inlet
- No tools are required to adjust the arc from 40° – 360° by using the easy to use Click-Set disc.
- This series comes with 8 interchangeable nozzles with a discharge range between 1.0 – 9.5 gpm (0,23 – 2,16 m<sup>3</sup>/hr). There is also a low angle nozzle tree available.



- All models come with a rubber protective cap and an optional vandal resistant retaining screw.
- The built in slip clutch protects the gears and motor from damage when adjusting for a part circle. If the rotor is manually moved out of position it will automatically reset to the defined pattern.
- NIR<sup>2</sup> (Nozzle Insertion / Radius Reduction) eliminates the need to remove the cap while fine tuning the radius and inserting the nozzle.
- 6000 comes in many various styles: shrub head version, heavy duty stainless version, 12" (30,5 cm) high pop version, anti-drain valve (ADV) version and the standard version.

## 6500



- The 6500 Pro Series 1" (25,4 mm) inlet series rotors are constructed of High impact plastic and all internal metal parts are made of stainless steel.
- No tools are required to adjust the arc from 40° – 360° by using the easy to use Click-Set disc.
- This series comes with 4 interchangeable nozzles with a discharge range between 2.8 – 13.2 gpm (0,64 – 3,00 m<sup>3</sup>/hr).



- All models come with a rubber protective cap and an optional vandal resistant retaining screw.
- The built in slip clutch protects the gears and motor from damage when adjusting for a part circle. If the rotor is manually moved out of position it will automatically reset to the defined pattern.
- NIR<sup>2</sup> (Nozzle Insertion / Radius Reduction) eliminates the need to remove the cap while fine tuning the radius and inserting the nozzle.
- 6500 comes in various styles: heavy duty stainless version with anti-drain valve (ADV), High speed rotation and the standard version with ADV.

## 7000



- The 7000 Pro Series 1" (25,4 mm) inlet series rotors are constructed of High impact plastic and all internal metal parts are made of stainless steel.
- The arc will adjust from 40° – 360° by using the easy to use Click-Set disc.
- This series comes with 6 interchangeable nozzles with a discharge range between 5.6 – 19.6 gpm (1,27 – 4,45 m<sup>3</sup>/hr).



- All models come with a rubber protective cap.
- The built in slip clutch protects the gears and motor from damage when adjusting for a part circle. If the rotor is manually moved out of position it will automatically reset to the defined pattern.
- NIR<sup>2</sup> (Nozzle Insertion / Radius Reduction) eliminates the need to remove the cap while fine tuning the radius and inserting the nozzle.
- 7000 comes in two styles: heavy duty stainless version with anti-drain valve (ADV) and the standard version with ADV.

## 7500



- The 7500 Pro Series 1" (25,4 mm) inlet series rotors are constructed of High impact plastic and all internal metal parts are made of stainless steel.
- The arc will adjust from 40° – 360° by using the easy to use Click-Set disc.
- This series comes with 6 interchangeable nozzles with a discharge range between 9.4 – 27.5 gpm (2,13 – 6,24 m<sup>3</sup>/hr).



- All models come with a rubber protective cap.
- The built in slip clutch protects the gears and motor from damage when adjusting for a part circle. If the rotor is manually moved out of position it will automatically reset to the defined pattern.
- NIR<sup>2</sup> (Nozzle Insertion / Radius Reduction) eliminates the need to remove the cap while fine tuning the radius and inserting the nozzle.
- 7500 comes in two styles: stainless version with anti-drain valve (ADV) and the high speed stainless version with ADV.

## D50/D55



- A full 4-inch pop-up clears tall turfgrass for even coverage.
- Stainless-steel riser resists damage and vandalism.
- Special design eliminates blow-by and reduces pressure loss to improve system performance.



- Dual-direction flushing protects internals from debris and ensures positive pop-up/down.
- Radius can be adjusted up to 25 percent for best coverage.
- Quick lock design allows internals to be serviced from the rotor's top.

## D70/D75



- A full 4-inch pop-up clears tall turfgrass for even coverage.
- Stainless-steel riser resists damage and vandalism.
- Special design eliminates blow-by and reduces pressure loss to improve system performance.



- Dual-direction flushing protects internal from debris and ensures positive pop-up/down.
- Radius can be adjusted up to 25 percent for best coverage.
- Quick lock design allows internal to be serviced from the rotor's top.

# RESIDENTIAL ROTORS

**5500**

5500-Pro

**5500RW**

5500-Pro for Reclaimed Water

**5501**

5500-Pro Shrub-Head

**5505**

5500-Pro with stainless steel riser and ADV

**5512**

5500-Pro 12" (30,5 cm) High-Pop, with ADV

**Accessories**

**6090**

Lavender Cover

**6096**

Wrench

**6099**

Anti-drain valve (not shown)

**6090**



**6096**



**5500**



**5505**



**5500RW**



**5501**



**5512**



**SPECIFICATIONS**

**OPERATING RANGE:**

20-65 psi (1,4 – 4,5 bar) (5500, 5501)  
25-65 psi (1,7 – 4,5 bar) (5505, 5512)

**MAXIMUM PRESSURE:**

75 psi (5,2 bar)

**DISCHARGE:**

0.5 to 2.5 gpm (0,11 – 0,57 m<sup>3</sup>/hr)

**SPRAY TRAJECTORY:**

13°

**POP-UP HEIGHT:**

4" (10 cm) (5500, 5505)  
12" (30,5 cm) (5512)

**BODY HEIGHT:**

7½" (19 cm) (5501)  
7¾" (18,7 cm) (5500, 5505)  
16¾" (43 cm) (5512)

**EXPOSED CAP DIAMETER:**

1⅞" (4,7 cm)

**CAP DIAMETER:**

2⅞" (7,3 cm)

**TYPE OF CAP:**

Rubber with locking screw

**INLET SIZE:**

¾" (19 mm) female (NPT and BSP)

**SCREEN MESH:**

.045 sq. in. (1,14 mm<sup>2</sup>) / 1150 micron

**ADV MODELS:**

Holds back up to 10' (3 m) difference in elevation

**# PER BOX:**

10 (5512)  
20 (5500, 5500RW, 5501, 5505)

Radius reduction adjustment hole

Pull-up slot



ROTORS

## FEATURES

- Bayonet protective cap.
- NIR<sup>2</sup> feature (Nozzle Insertion/Radius Reduction) on all models eliminates the need to remove the cap for nozzle adjustments.
- Four interchangeable Acu-Cover nozzles ranging from 0.5 to 2.5 gpm (0,11 – 0,57 m<sup>3</sup>/hr).
- 5512 Pro pops up a full 12" (30,5 cm). Ideal for shrubs and ground cover areas, at the base of hillsides where risers are not appropriate and where liability is a concern.
- Better pattern coverage than turning down a mid-range gear drive.
- Water lubricated gear motor.
- Click-Set<sup>®</sup> collars are quick and easy to adjust.
- Continuous 360° rotation or part-circle adjustable 40° to 310°.
- Ratcheting slip clutch protects gears and motor from damage while adjusting turret for part-circle adjustments - wet or dry.
- Wrench, piston clamp and installation instructions included (Model 5501 has no clamp).

### 5500 PRO SERIES

13° trajectory (Part Numbers - 77577)

Nozzle color



Pressure		Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure		Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		
PSI	FT	FT	FT		GPM	IN/HR		IN/HR	BAR	kPa	m		m	L/min	m <sup>3</sup> /hr
20	18	14	0.5	0.30	0.37		51	1.4	138	5.5	4.1	1.9	0.11	7.5	9.4
35	20	15	0.7	0.34	0.42			2.5	242	6.1	4.6	2.6	0.16	8.6	10.7
50	21	16	0.8	0.35	0.44			3.5	345	6.4	4.8	3.0	0.18	8.9	11.1
20	20	15	0.8	0.39	0.48		52	1.4	138	6.1	4.6	3.0	0.18	9.8	12.2
35	24	18	1.2	0.40	0.50			2.5	242	7.3	5.5	4.5	0.27	10.2	12.7
50	25	19	1.3	0.40	0.50			3.5	345	7.6	5.7	4.9	0.30	10.2	12.7
20	22	17	1.1	0.44	0.55		53	1.4	138	6.7	5.0	4.2	0.25	11.1	13.9
35	27	20	1.6	0.42	0.53			2.5	242	8.2	6.2	6.1	0.36	10.7	13.4
50	28	21	1.8	0.44	0.55			3.5	345	8.5	6.4	6.8	0.41	11.2	14.0
20	23	17	1.6	0.58	0.73		54	1.4	138	7.0	5.3	6.1	0.36	14.8	18.5
35	31	23	2.2	0.44	0.55			2.5	242	9.5	7.1	8.3	0.50	11.2	14.0
50	32	24	2.5	0.47	0.59			3.5	345	9.8	7.3	9.5	0.57	11.9	14.9

<sup>1</sup> Precipitation rates for square and triangular spacing calculated at 50% of diameter for half-circle operation. Assumes zero wind for precipitation and radius. Adjust for local conditions.



ROTORS

# RESIDENTIAL & COMMERCIAL ROTORS

**6000**

6000-Pro

**6000RW**

6000-Pro for Reclaimed Water

**6000-7**

6000-Pro with #7 Nozzle,  
Factory Installed

**6001**

6000-Pro Shrub Head

**6002**

6000-Pro with ADV

**6005**

6000-Pro with stainless steel  
riser and ADV

**6012**

6000-Pro 12" (30,5 cm)  
High-Pop, with ADV

**Accessories**

**6090**

Lavender Cover

**6096**

Wrench

**6099**

Anti-drain valve (not shown)



**SPECIFICATIONS**

**OPERATING RANGE:**

20-65 psi (1,4 – 4,5 bar) (6000, 6001, 6002)  
25-65 psi (1,7 – 4,5 bar) (6005, 6012)

**MAXIMUM PRESSURE:**

75 psi (5,2 bar)

**DISCHARGE:**

1.0 to 9.5 gpm (0,23 – 2,16 m<sup>3</sup>/hr)

**SPRAY TRAJECTORY:**

25°

**POP-UP HEIGHT:**

4" (10 cm) (6000, 6005)  
12" (30,5 cm) (6012)

**BODY HEIGHT:**

7½" (19 cm) (6001)  
7¾" (18,7 cm) (6000, 6005)  
16¾" (43 cm) (6012)

**EXPOSED CAP DIAMETER:**

1 7/8" (4,7 cm)

**CAP DIAMETER:**

2 7/8" (7,3 cm)

**TYPE OF CAP:**

Rubber with locking screw

**INLET SIZE:**

¾" (19 mm) female (NPT and BSP)

**SCREEN MESH:**

.045 sq. in. (1,14 mm<sup>2</sup>) / 1150 micron

**ADV MODELS:**

Holds back up to 10' (3 m) difference  
in elevation

**# PER BOX:**

10 (6012)  
20 (6000, 6000RW, 6000-7, 6001, 6002, 6005)

Radius reduction  
adjustment hole

Pull-up slot



FEATURES

- Bayonet protective cap.
- NIR<sup>2</sup> feature (Nozzle Insertion/Radius Reduction) on all models eliminates the need to remove the cap for nozzle adjustments.
- Eight interchangeable Acu-Cover nozzles ranging from 1.0 to 9.5 gpm (0,23 – 2,16 m<sup>3</sup>/hr).
- Seven optional low-angle nozzles (13°) for windy areas or for throwing under trees.
- Proven reliability of the water driven gear motor.
- 6012 Pro pops up a full 12" (30,5 cm). Ideal for shrubs and ground cover areas, at the base of hillsides where risers are not appropriate and where liability is a concern.
- Click-Set<sup>®</sup> collars are quick and easy to adjust.
- Continuous 360° rotation or part-circle adjustable 40° to 310°.
- Ratcheting slip clutch protects gears and motor from damage while adjusting turret for part-circle adjustments - wet or dry.
- Wrench, piston clamp and installation instructions included (Model 6001 has no clamp).

6000 PRO SERIES

25° trajectory (Part Numbers - 77576)

Nozzle color



Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>	
				IN/HR	IN/HR▲						mm/hr	mm/hr▲
PSI	FT	FT	GPM	IN/HR	IN/HR▲		BAR	kPa	m	m	L/min	m <sup>3</sup> /hr
20	30	23	1.0	0.21	0.27	4	1.4	138	9.2	6.9	3.8	0.23
35	31	23	1.4	0.28	0.35		2.5	242	9.5	7.1	5.3	0.32
50	34	26	1.7	0.28	0.35		3.5	345	10.4	7.8	6.4	0.39
20	33	25	1.2	0.21	0.26	5	1.4	138	10.1	7.5	4.5	0.27
35	37	28	1.6	0.23	0.28		2.5	242	11.3	8.5	6.1	0.36
50	38	29	1.9	0.25	0.32		3.5	345	11.6	8.7	7.2	0.43
20	32	24	1.4	0.26	0.33	6	1.4	138	9.8	7.3	5.3	0.32
35	38	29	1.9	0.25	0.32		2.5	242	11.6	8.7	7.2	0.43
50	40	30	2.3	0.28	0.35		3.5	345	12.2	9.2	8.7	0.52
20	38	29	2.2	0.29	0.37	7	1.4	138	11.6	8.7	8.3	0.50
35	40	30	2.7	0.33	0.41		2.5	242	12.2	9.2	10.2	0.61
50	41	31	3.1	0.36	0.44		3.5	345	12.5	9.4	11.7	0.70
35	38	29	3.1	0.41	0.52	8	2.5	242	11.6	8.7	11.7	0.70
50	42	32	4.0	0.44	0.54		3.5	345	12.8	9.6	15.1	0.91
65	43	32	4.6	0.48	0.60		4.6	449	13.1	9.8	17.4	1.04
35	42	32	4.2	0.46	0.57	9	2.5	242	12.8	9.6	15.9	0.95
50	47	35	5.4	0.47	0.59		3.5	345	14.3	10.8	20.4	1.23
65	48	36	6.3	0.53	0.66		4.6	449	14.6	11.0	23.8	1.43
35	42	32	5.4	0.59	0.74	10	2.5	242	12.8	9.6	20.4	1.23
50	48	36	6.8	0.57	0.71		3.5	345	14.6	11.0	25.7	1.54
65	49	37	8.0	0.64	0.80		4.6	449	14.9	11.2	30.3	1.82
35	42	32	6.4	0.70	0.87	11	2.5	242	12.8	9.6	24.2	1.45
50	48	36	8.1	0.68	0.84		3.5	345	14.6	11.0	30.7	1.84
65	51	38	9.5	0.70	0.88		4.6	449	15.6	11.7	36.0	2.16

<sup>1</sup> Precipitation rates for square and triangular spacing calculated at 50% of diameter for half-circle operation. Assumes zero wind for precipitation and radius. Adjust for local conditions.

6095 LOW ANGLE

13° trajectory (optional for 6000 series only)

(Part Numbers - 6095)

Nozzle color



Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>	
				IN/HR	IN/HR▲						mm/hr	mm/hr▲
PSI	FT	FT	GPM	IN/HR	IN/HR▲		BAR	kPa	m	m	L/min	m <sup>3</sup> /hr
20	26	20	0.9	0.26	0.32	4	1.4	138	7.9	5.9	3.4	0.20
35	33	25	1.3	0.23	0.29		2.5	242	10.1	7.5	4.9	0.30
50	34	26	1.5	0.25	0.31		3.5	345	10.4	7.8	5.7	0.34
20	26	20	1.1	0.31	0.39	5	1.4	138	7.9	5.9	4.2	0.25
35	33	25	1.4	0.25	0.31		2.5	242	10.1	7.5	5.3	0.32
50	35	26	1.7	0.27	0.33		3.5	345	10.7	8.0	6.4	0.39
20	26	20	1.4	0.40	0.50	6	1.4	138	7.9	5.9	5.3	0.32
35	33	25	1.9	0.34	0.42		2.5	242	10.1	7.5	7.2	0.43
50	36	27	2.3	0.34	0.43		3.5	345	11.0	8.2	8.7	0.52
20	31	23	2.5	0.50	0.62	7	1.4	138	9.5	7.1	9.5	0.57
35	35	26	3.1	0.49	0.61		2.5	242	10.7	8.0	11.7	0.70
50	37	28	3.5	0.49	0.61		3.5	345	11.3	8.5	13.2	0.79
35	32	24	3.2	0.60	0.75	8	2.5	242	9.8	7.3	12.1	0.73
50	38	29	4.0	0.53	0.67		3.5	345	11.6	8.7	15.1	0.91
65	39	29	4.7	0.60	0.74		4.6	449	11.9	8.9	17.8	1.07
35	34	26	3.9	0.65	0.81	9	2.5	242	10.4	7.8	14.8	0.89
50	37	28	4.9	0.69	0.86		3.5	345	11.3	8.5	18.5	1.11
65	40	30	5.7	0.69	0.86		4.6	449	12.2	9.2	21.6	1.29
35	33	25	5.1	0.90	1.12	10	2.5	242	10.1	7.5	19.3	1.16
50	39	29	6.4	0.81	1.01		3.5	345	11.9	8.9	24.2	1.45
65	42	32	7.5	0.82	1.02		4.6	449	12.8	9.6	28.4	1.70

<sup>1</sup> Precipitation rates for square and triangular spacing calculated at 50% of diameter for half-circle operation. Assumes zero wind for precipitation and radius. Adjust for local conditions.



ROTORS

# COMMERCIAL & MUNICIPAL ROTORS

## SPECIFICATIONS

### 6500 (6510)

6500/6510 Standard with ADV

### 6500RW (6510RW)

6500/6510 for Reclaimed Water & ADV

### 6503 (6513)

6500-Pro High Speed Rotation, and stainless steel riser

### 6505 (6515)

6500/6510 Standard with stainless steel riser and ADV

*Note: Versions in parenthesis feature BSP threading*

## Accessories

### 6090

Lavender Cover

### 6096

Wrench

### 6099

Anti-drain valve (not shown)

6500



6503



6505



6500RW



6090



6096



### OPERATING RANGE:

40-75 psi (2,7 – 5,2 bar)

### MAXIMUM PRESSURE:

80 psi (5,5 bar)

### DISCHARGE:

2.8 to 13.2 gpm (0,64 – 3,00 m<sup>3</sup>/hr)

### SPRAY TRAJECTORY:

25°

### POP-UP HEIGHT:

4" (10 cm)

### BODY HEIGHT:

8" (20,3 cm)

### EXPOSED CAP DIAMETER:

1 7/8" (4,7 cm)

### CAP DIAMETER:

2 7/8" (7,3 cm)

### TYPE OF CAP:

Rubber with locking screw

### INLET SIZE:

1" (25,4 mm) female NPT (6500, 6503, 6505)

1" (25,4 mm) female BSP (6510, 6513, 6515)

### SCREEN MESH:

.045 sq. in. (1,14 mm<sup>2</sup>) / 1150 micron

### ADV MODELS:

Holds back up to 10' (3 m) difference in elevation

### # PER BOX:

20

Radius reduction adjustment hole

Pull-up slot



FEATURES

- Bayonet protective cap.
- NIR<sup>2</sup> feature (Nozzle Insertion/Radius Reduction) on all models eliminates the need to remove the cap for nozzle adjustments.
- Four interchangeable Acu-Cover nozzles ranging from 2.8 to 13.2 gpm (0,64 – 3,00 m<sup>3</sup>/hr).
- Rubber cap has locking screw (6092) for vandal protection (standard on all units).
- Proven reliability of the water driven gear motor.
- Click-Set<sup>®</sup> collars are quick and easy to adjust.
- Continuous 360° rotation or part-circle adjustment 40° to 310°.
- Ratcheting slip clutch protects gears and motor from damage while adjusting turret for part-circle adjustments - wet or dry.
- 6503 Pro offers one minute revolution for quick syringe applications.
- Heavy-duty case with stabilizer ribs increases stability even in loose soil.
- Wrench, piston clamp and installation instructions included.



6500 PRO SERIES

25° trajectory (Part Numbers - 77636)  
Nozzle color



Pressure		Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure		Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>	
PSI	FT	FT	GPM		IN/HR■	IN/HR▲		BAR	kPa	m	m		L/min	m <sup>3</sup> /hr
45	44	33	2.8	0.23	0.29	<b>61</b>	3.1	310	13.4	10.1	10.6	0.64	5.8	7.2
60	46	35	3.3	0.27	0.34		4.1	414	14.0	10.5	12.5	0.75	6.9	8.6
75	46	35	3.8	0.31	0.39		5.2	517	14.0	10.5	14.4	0.86	7.9	9.8
45	48	36	5.2	0.39	0.49	<b>62</b>	3.1	310	14.6	11.0	19.7	1.18	10.0	12.4
60	52	39	6.1	0.41	0.52		4.1	414	15.9	11.9	23.1	1.39	10.5	13.1
75	54	41	7.0	0.44	0.54		5.2	517	16.5	12.4	26.5	1.59	11.1	13.8
45	51	38	7.4	0.52	0.65	<b>63</b>	3.1	310	15.6	11.7	28.0	1.68	13.2	16.4
60	54	41	8.8	0.55	0.68		4.1	414	16.5	12.4	33.3	2.00	13.9	17.4
75	55	41	10.1	0.60	0.75		5.2	517	16.8	12.6	38.2	2.29	15.4	19.2
45	52	39	9.7	0.67	0.83	<b>64</b>	3.1	310	15.9	11.9	36.7	2.20	17.0	21.2
60	57	43	11.6	0.66	0.82		4.1	414	17.4	13.0	43.9	2.63	16.7	20.8
75	60	45	13.2	0.66	0.84		5.2	517	18.3	13.7	50.0	3.00	17.1	21.4

<sup>1</sup> Precipitation rates for square and triangular spacing calculated at 50% of diameter for half-circle operation. Assumes zero wind for precipitation and radius. Adjust for local conditions.

6503/6513 PRO HIGH SPEED

25° trajectory (Part Numbers - 77636)  
Nozzle color



Pressure		Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure		Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>	
PSI	FT	FT	GPM		IN/HR■	IN/HR▲		BAR	kPa	m	m		L/min	m <sup>3</sup> /hr
45	43	32	2.8	0.29	0.34	<b>61</b>	3.1	310	13.1	9.8	10.6	0.64	32.3	37.3
60	43	32	3.3	0.34	0.40		4.1	414	13.1	9.8	12.5	0.75	38.1	44.0
75	43	32	3.8	0.40	0.46		5.2	517	13.1	9.8	14.4	0.86	43.8	50.6
45	44	33	5.2	0.52	0.60	<b>62</b>	3.1	310	13.4	10.1	19.7	1.18	57.3	66.1
60	46	35	6.1	0.56	0.64		4.1	414	14.0	10.5	23.1	1.39	61.5	71.0
75	47	35	7.0	0.61	0.71		5.2	517	14.3	10.7	26.5	1.59	67.6	78.0
45	48	36	7.4	0.62	0.72	<b>63</b>	3.1	310	14.6	11.0	28.0	1.68	68.5	79.1
60	50	38	8.8	0.68	0.79		4.1	414	15.2	11.4	33.3	2.00	75.1	86.7
75	50	38	10.1	0.78	0.90		5.2	517	15.2	11.4	38.2	2.29	86.2	99.5
45	46	35	9.7	0.89	1.02	<b>64</b>	3.1	310	14.0	10.5	36.7	2.20	97.8	112.9
60	49	37	11.6	0.93	1.08		4.1	414	14.9	11.2	43.9	2.63	103.0	119.0
75	51	38	13.2	0.98	1.13		5.2	517	15.5	11.7	50.0	3.00	108.2	125.0

<sup>1</sup> Precipitation rates for square and triangular spacing calculated at 50% of diameter for half-circle operation. Assumes zero wind for precipitation and radius. Adjust for local conditions.

# COMMERCIAL - MUNICIPAL & SPORTS TURF ROTORS

## 7000/7010E

7000-Pro Standard with ADV

## 7000RW/7010ERW

7000-Pro for Reclaimed Water & ADV

## 7005/7015E

7000-Pro Standard with stainless steel riser and ADV

*Note: "E" versions ( or versions in parenthesis) feature BSP threading*

## Accessories

### 6101

Sod Cup Kit

### 6102

Lavender Cover

### 6097

Wrench

7000



7005



7000RW



6097



6101



6102



## SPECIFICATIONS

### OPERATING RANGE:

40-90 psi (2,7 – 6,2 bar)

### MAXIMUM PRESSURE:

100 psi (6,9 bar)

### DISCHARGE:

5.6 to 19.6 gpm (1,27 – 4,45 m<sup>3</sup>/hr)

### SPRAY TRAJECTORY:

25°

### POP-UP HEIGHT:

4½" (11,4 cm)

### BODY HEIGHT:

9½" (24,1 cm)

### EXPOSED CAP DIAMETER:

2½" (6,3 cm)

### TYPE OF CAP:

Rubber with locking screw

### INLET SIZE:

1" (25,4 mm) female NPT (7000, 7015)  
1" (25,4 mm) female BSP (7010E, 7015E)

### SCREEN MESH:

.045 sq. in. (1,14 mm<sup>2</sup>) / 1150 micron

### ADV MODELS:

Holds back up to 10' (3 m) difference in elevation

### # PER BOX:

10

## FEATURES

- Bayonet protective cap.
- NIR<sup>2</sup> feature (Nozzle Insertion/Radius Reduction) on all models eliminates the need to remove the cap for nozzle adjustments.
- Six interchangeable Acu-Cover nozzles ranging from 5.6 to 19.6 gpm (1,27 – 4,45 m<sup>3</sup>/hr).
- Rubber cap has two locking screws for vandal protection.
- Click-Set<sup>®</sup> collars are quick and easy to adjust.
- Gear drive may be installed ½" (1,3 cm) below grade.
- Proven reliability of the water driven gear motor.
- Continuous 360° rotation or part-circle adjustable 40° to 310°.
- Heavy-duty case with stabilizer ribs increases stability even in loose soil.
- Ratcheting slip clutch protects gears and motor from damage while adjusting turret for part-circle adjustments - wet or dry.
- Wrench, piston clamp and installation instructions included.

### 7000 PRO SERIES

25° trajectory (Part Numbers - 77578)

Nozzle color



Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>			
				IN/HR■	IN/HR▲						BAR	kPa	m	m
45	41	31	5.6	0.64	0.74	1	3.1	310	12.5	9.4	21.2	1.27	16.3	18.8
60	42	32	5.9	0.64	0.74		4.1	414	12.8	9.6	22.3	1.34	16.4	18.9
75	42	32	7.2	0.79	0.91		5.2	517	12.8	9.6	27.3	1.64	20.0	23.0
90	43	32	7.8	0.81	0.94		6.2	621	13.1	9.8	29.5	1.77	20.6	23.8
45	48	36	6.9	0.58	0.67	2	3.1	310	14.6	11.0	26.1	1.57	14.6	16.9
60	49	37	7.8	0.63	0.72		4.1	414	14.9	11.2	29.5	1.77	15.9	18.3
75	49	37	8.9	0.71	0.82		5.2	517	14.9	11.2	33.7	2.02	18.1	20.9
90	50	38	9.8	0.75	0.87		6.2	621	15.2	11.4	37.1	2.23	19.2	22.1
45	52	39	8.7	0.62	0.72	3	3.1	310	15.9	11.9	32.9	1.98	15.7	18.2
60	53	40	9.9	0.68	0.78		4.1	414	16.2	12.1	37.5	2.25	17.2	19.9
75	53	40	11.3	0.77	0.89		5.2	517	16.2	12.1	42.8	2.57	19.7	22.7
90	54	41	12.4	0.82	0.95		6.2	621	16.5	12.3	46.9	2.82	20.8	24.0
45	54	41	10.7	0.71	0.82	4	3.1	310	16.5	12.3	40.5	2.43	17.9	20.7
60	55	41	12.2	0.78	0.90		4.1	414	16.8	12.6	46.2	2.77	19.7	22.8
75	56	42	14.0	0.86	0.99		5.2	517	17.1	12.8	53.0	3.18	21.8	25.2
90	58	44	15.3	0.88	1.01		6.2	621	17.7	13.3	57.9	3.48	22.2	25.7
45	55	41	11.5	0.73	0.85	5	3.1	310	16.8	12.6	43.5	2.61	18.6	21.5
60	57	43	13.2	0.78	0.90		4.1	414	17.4	13.0	50.0	3.00	19.9	22.9
75	57	43	15.1	0.89	1.03		5.2	517	17.4	13.0	57.2	3.43	22.7	26.2
90	59	44	16.4	0.91	1.05		6.2	621	18.0	13.5	62.1	3.73	23.0	26.6
45	56	42	13.7	0.84	0.97	6	3.1	310	17.1	12.8	51.9	3.11	21.4	24.7
60	59	44	15.7	0.87	1.00		4.1	414	18.0	13.5	59.4	3.57	22.1	25.5
75	61	46	18.8	0.97	1.12		5.2	517	18.6	13.9	71.2	4.27	24.7	28.5
90	63	47	19.6	0.95	1.10		6.2	621	19.2	14.4	74.2	4.45	24.1	27.9

<sup>1</sup> Precipitation rates for square and triangular spacing calculated at 50% of diameter for half-circle operation. Assumes zero wind for precipitation and radius. Adjust for local conditions.



# COMMERCIAL - MUNICIPAL & SPORTS TURF ROTORS

## 7500/7510E

7500-Pro Standard with ADV

## 7500RW/7510ERW

7500-Pro for Reclaimed Water & ADV

## 7503 (7513E)

7503-Pro High speed rotation, stainless steel riser and ADV

*Note: "E" versions (or versions in parenthesis) feature BSP threading*

## Accessories

### 6101

Sod Cup Kit

### 6102

Lavender Cover

### 6097

Wrench

7503



7500



7500RW



6097



6101



6102



## SPECIFICATIONS

### OPERATING RANGE:

40-90 psi (2,7 – 6,2 bar)

### MAXIMUM PRESSURE:

100 psi (6,9 bar)

### DISCHARGE:

9.4 to 27.5 gpm (2,13 – 6,24 m<sup>3</sup>/hr)

### SPRAY TRAJECTORY:

25°

### POP-UP HEIGHT:

4½" (11,4 cm)

### BODY HEIGHT:

9½" (24,1 cm)

### EXPOSED CAP DIAMETER:

2½" (6,3 cm)

### TYPE OF CAP:

Rubber with locking screw

### INLET SIZE:

1" (25,4 mm) female NPT (7500, 7503)

1" (25,4 mm) female BSP (7510E, 7513E)

### SCREEN MESH:

.045 sq. in. (1,14 mm<sup>2</sup>) / 1150 micron

### ADV MODELS:

Holds back up to 10' (3 m) difference in elevation

### # PER BOX:

10

FEATURES

- NIR<sup>2</sup> feature (Nozzle Insertion/Radius Reduction) on all models eliminates the need to remove the cap for nozzle adjustments.
- Six interchangeable Acu-Cover nozzles ranging from 9.4 to 27.5 gpm (2,13 – 6,24 m<sup>3</sup>/hr).
- Rubber cap has two locking screws for vandal protection.
- Click-Set<sup>®</sup> collars are quick and easy to adjust
- Gear drive may be installed ½" (1,3 cm) below grade.
- Proven reliability of the water driven gear motor
- Continuous 360° rotation or part-circle adjustable 40° to 310°.
- Heavy-duty case with stabilizer ribs increases stability even in loose soil.
- Ratcheting slip clutch protects gears and motor from damage while adjusting turret for part-circle adjustments - wet or dry.
- Wrench, piston clamp and installation instructions included.

7500 PRO SERIES

25° trajectory (Part Numbers - 77579)  
Nozzle color



Pressure	Max Radius		Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure	Max Radius		Discharge	Precipitation Rate <sup>1</sup>			
	PSI	FT		FT	GPM			IN/HR	IN/HR		BAR	kPa	m	m
45	53	40	9.4	0.64	0.80	3	3.1	310	16.2	12.1	35.6	2.13	16.4	20.4
60	56	42	10.9	0.67	0.83		4.1	414	17.1	12.8	41.3	2.47	17.0	21.2
75	57	43	12.2	0.72	0.90		5.2	517	17.4	13.0	46.2	2.77	18.4	22.9
90	58	44	13.4	0.77	0.96	4	6.2	621	17.7	13.3	50.7	3.04	19.5	24.3
45	54	41	11.4	0.75	0.94		3.1	310	16.5	12.4	43.1	2.59	19.1	23.8
60	59	44	13.2	0.73	0.91		4.1	414	18.0	13.5	50.0	3.00	18.6	23.1
75	61	46	14.9	0.77	0.96	5	5.2	517	18.6	14.0	56.4	3.38	19.6	24.4
90	62	47	16.4	0.82	1.02		6.2	621	18.9	14.2	62.1	3.72	20.9	26.0
45	57	43	12.3	0.73	0.91		3.1	310	17.4	13.0	46.6	2.79	18.5	23.1
60	61	46	14.4	0.75	0.93	6	4.1	414	18.6	14.0	54.5	3.27	18.9	23.6
75	65	49	16.2	0.74	0.92		5.2	517	19.8	14.9	61.3	3.68	18.8	23.4
90	66	50	17.8	0.79	0.98		6.2	621	20.1	15.1	67.4	4.04	20.0	24.9
60	64	48	17.5	0.82	1.03	7	4.1	414	19.5	14.6	66.2	3.97	20.9	26.1
75	68	51	20.0	0.83	1.04		5.2	517	20.7	15.6	75.7	4.54	21.2	26.4
90	68	51	22.1	0.92	1.15		6.2	621	20.7	15.6	83.6	5.02	23.4	29.2
60	65	49	19.6	0.89	1.11	8	4.1	414	19.8	14.9	74.2	4.45	22.7	28.3
75	69	52	21.3	0.86	1.07		5.2	517	21.0	15.8	80.6	4.84	21.9	27.3
90	73	55	24.6	0.89	1.11		6.2	621	22.3	16.7	93.1	5.58	22.6	28.2
60	66	50	21.8	0.96	1.20	8	4.1	414	20.1	15.1	82.5	4.95	24.5	30.5
75	71	53	24.8	0.95	1.18		5.2	517	21.7	16.2	93.9	5.63	24.1	30.0
90	74	56	27.5	0.97	1.21		6.2	621	22.6	16.9	104.1	6.24	24.6	30.6

<sup>1</sup> Precipitation rates for square and triangular spacing calculated at 50% of diameter for half-circle operation. Assumes zero wind for precipitation and radius. Adjust for local conditions.

7503/7513 PRO HIGH SPEED

25° trajectory (Part Numbers - 77579)  
Nozzle color



Pressure	Max Radius		Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure	Max Radius		Discharge	Precipitation Rate <sup>1</sup>			
	PSI	FT		FT	GPM			IN/HR	IN/HR		BAR	kPa	m	m
45	48	36	9.4	0.79	0.98	3	3.1	310	14.6	11.0	35.6	2.13	20.0	24.9
60	50	38	10.9	0.84	1.05		4.1	414	15.3	11.4	41.3	2.47	21.3	26.6
75	50	38	12.2	0.94	1.17		5.2	517	15.3	11.4	46.2	2.77	23.9	29.8
90	53	40	13.4	0.92	1.15	4	6.2	621	16.2	12.1	50.7	3.04	23.3	29.1
45	51	38	11.4	0.84	1.05		3.1	310	15.6	11.7	43.1	2.59	21.4	26.7
60	54	41	13.2	0.87	1.09		4.1	414	16.5	12.4	50.0	3.00	22.1	27.6
75	55	41	14.9	0.95	1.18	5	5.2	517	16.8	12.6	56.4	3.38	24.1	30.0
90	55	41	16.4	1.04	1.30		6.2	621	16.8	12.6	62.1	3.72	26.5	33.1
45	52	39	12.3	0.88	1.09		3.1	310	15.9	11.9	46.6	2.79	22.3	27.8
60	55	41	14.4	0.92	1.14	6	4.1	414	16.8	12.6	54.5	3.27	23.3	29.0
75	57	43	16.2	0.96	1.20		5.2	517	17.4	13.0	61.3	3.68	24.4	30.4
90	58	44	17.8	1.02	1.27		6.2	621	17.7	13.3	67.4	4.04	25.9	32.3
60	58	44	17.5	1.00	1.25	7	4.1	414	17.7	13.3	66.2	3.97	25.4	31.7
75	60	45	20.0	1.07	1.33		5.2	517	18.3	13.7	75.7	4.54	27.2	33.9
90	61	46	22.1	1.14	1.43		6.2	621	18.6	14.0	83.6	5.02	29.1	36.2
60	58	44	19.6	1.12	1.40	8	4.1	414	17.7	13.3	74.2	4.45	28.5	35.5
75	60	45	21.3	1.14	1.42		5.2	517	18.3	13.7	80.6	4.84	28.9	36.1
90	61	46	24.6	1.27	1.59		6.2	621	18.6	14.0	93.1	5.58	32.3	40.3
60	59	44	21.8	1.21	1.50	8	4.1	414	18.0	13.5	82.5	4.95	30.6	38.2
75	61	46	24.8	1.28	1.60		5.2	517	18.6	14.0	93.9	5.63	32.6	40.7
90	64	48	27.5	1.29	1.61		6.2	621	19.5	14.6	104.1	6.24	32.8	41.0

<sup>1</sup> Precipitation rates for square and triangular spacing calculated at 50% of diameter for half-circle operation. Assumes zero wind for precipitation and radius. Adjust for local conditions.



ROTORS

# GOLF - SHORT TO MID RANGE ROTORS

## SPECIFICATIONS

### D50C25A\*

1" Full Circle Rotor with Check Valve, ACME

### D50E2570A\*

1" Full Circle Rotor, Electric VIH, ACME

### D50H25A\*

1" Full Circle Rotor, Hydraulic VIH, ACME

### D50B25A\*

1" Full Circle Block Rotor, with Drain Valve ACME

- \* *Pressure Regulation (Electric Model Only) 60, 70 (Standard Pressure), or 80 PSI*
- \* *Inlet thread availability; NPT, BSP, or ACME (standard stocking item)*
- \* *Re-Claimed Water Versions Available*

### D55C25A\*

1" Part Circle Rotor with Check Valve, ACME

### D55E2570A\*

1" Part Circle Rotor, Electric VIH, ACME

### D55H25A\*

1" Part Circle Rotor, Hydraulic VIH, ACME

### D55B25A\*

1" Part Circle Block Rotor, with Check Valve, ACME

### D55XC2514A\*

1" X-Series Rotor, with Check Valve, ACME

### D55XE251470A\*

1" X-Series Rotor, Electric VIH, ACME

### D55XH2514A\*

1" X-Series Rotor, Hydraulic VIH, ACME

- \* *Pressure Regulation (Electric Model Only) 60, 70 (Standard Pressure), or 80 PSI*
- \* *Inlet thread availability; NPT, BSP, or ACME (standard stocking item)*
- \* *Re-Claimed Water Versions Available*

### D50C\* D50E\* D50H\*



### D50B\* D55B\*



D038

## Accessories

### D001

Snap ring/pilot valve tool

### D002

Pilot valve key

### D003

1" valve insertion tool

### D038

Pressure gauge

### Flange Body Series

#### OPERATING RANGE:

50-80 psi (3,4 – 5,5 bar)

#### MAXIMUM PRESSURE:

100 psi (6,9 bar)

#### MINIMUM PRESSURE:

40 psi (2,7 bar)

#### DISCHARGE:

11.0 to 31.3 gpm (2,49 – 7,11 m<sup>3</sup>/hr)

#### POP-UP HEIGHT:

4" (10 cm)

#### BODY HEIGHT:

9¾" (24,8 cm)

#### TOP DIAMETER:

6½" (17,1 cm)

#### INLET SIZE:

1" (25,4 mm) Female NPT, BSP, ACME

#### # PER BOX:

4 x D50C/D55C, D50E/D55E or D50HD55H Series

### Block Body Series

#### OPERATING RANGE:

50-70 psi (3,4 – 4,8 bar)

#### MAXIMUM PRESSURE:

100 psi (6,9 bar)

#### MINIMUM PRESSURE:

40 psi (2,7 bar)

#### DISCHARGE:

11.0 to 31.3 gpm (2,49 – 7,11 m<sup>3</sup>/hr)

#### POP-UP HEIGHT:

4" (10 cm)

#### CHECK VALVE:

Holds back up to 15' (4,5 m) difference in elevation

#### BODY HEIGHT:

8¼" (20,9 cm) (D50/D55B Series)

#### TOP DIAMETER:

6" (15,2 cm) (D50/D55B Series)

#### INLET SIZE:

1" (25,4 mm) Female NPT, BSP, ACME

#### # PER BOX:

8 x D50/D55B Series

## FEATURES

- A full 4-inch pop-up clears tall turfgrass for even coverage.
- Rolled-over flange keeps turfgrass clear of riser and nozzle.
- Stainless-steel riser resists damage and vandalism.
- Tough, commercial-grade plastic case stands up to punishment.
- Special design eliminates blow-by and reduces pressure loss to improve system performance.
- Dual-direction flushing protects internals from debris and ensures positive pop-up/down.
- Uniform coverage with square or triangular spacing.
- Full-circle and adjustable patterns for maximum flexibility.
- Easy arc adjustment in the field without any tools.
- Nozzle kit offers fully interchangeable nozzles and is included with each rotor.
- Unique manual On/Off control for hydraulic rotors.
- Heavy-duty spring assures positive retraction.
- Radius can be adjusted up to 25 percent for best coverage.
- Compact cartridge design allows for quick and easy repair.
- Quick lock design allows internals to be serviced from the rotor's top.
- D50/D55 C Models include factory-installed check valve.
- D50/D55 E Models feature electric valve and head.
- D50/D55 H Models are N.O. hydraulically controlled.
- D50/D55 B Compact Models feature factory-installed drain valve.
- D55 X-Series are dual part-circle rotors with adjustable radii.

**Note:**

- Pressure springs other than the standard, pressure springs as noted above shall be made available upon request and for installation by others. Additional charges will occur.
- Nozzles other than standard will be shipped loose for installation by others.

### D50 SERIES

Part Number	Pressure		Max Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure		Max Radius	Discharge	Precipitation Rate <sup>1</sup>	
	PSI	FT			GPM	IN/HR■		IN/HR▲	BAR			kPa	m
D1055	60	37	7.9	0.56	0.64	8 Black	4.1	410	11.2	0.5	1.8	14.18	16.37
	70	37	10.1	0.71	0.82		4.8	480	11.2	0.6	2.3	18.13	20.93
	80	—	—	—	—		5.5	550	—	—	—	—	—
D1187	60	39	9.9	0.63	0.72	12 Gray	4.1	410	11.9	0.6	2.2	15.99	18.47
	70	39	11.5	0.73	0.84		4.8	480	11.9	0.7	2.6	18.58	21.45
	80	—	—	—	—		5.5	550	—	—	—	—	—
D1201	60	47	13.8	0.60	0.69	14 Yellow	4.1	410	14.3	0.9	3.1	15.35	17.73
	70	47	15.4	0.67	0.78		4.8	480	14.3	1.0	3.5	17.13	19.78
	80	—	—	—	—		5.5	550	—	—	—	—	—
D1084	60	51	16.9	0.63	0.72	16 Orange	4.1	410	15.5	1.1	3.8	15.97	18.44
	70	55	18.3	0.58	0.67		4.8	480	16.7	1.2	4.2	14.87	17.17
	80	—	—	—	—		5.5	550	—	—	—	—	—
D1081	60	53	19.8	0.68	0.78	18 Brown	4.1	410	16.1	1.2	4.5	17.32	20.00
	70	57	20.2	0.60	0.69		4.8	480	17.3	1.3	4.6	15.28	17.64
	80	—	—	—	—		5.5	550	—	—	—	—	—
D1229	60	55	19.7	0.63	0.72	19 Red	4.1	410	16.7	1.2	4.5	16.00	18.48
	70	55	21.1	0.67	0.78		4.8	480	16.7	1.3	4.8	17.14	19.79
	80	59	22.2	0.61	0.71		5.5	550	18.0	1.4	5.0	15.59	18.00
D1082	60	59	22.6	0.63	0.72	25* Blue	4.1	410	17.9	1.4	5.1	15.95	18.42
	70	67	26.6	0.57	0.66		4.8	480	20.4	1.7	6.0	14.56	16.81
	80	69	28.5	0.58	0.67		5.5	550	21.0	1.8	6.5	14.63	16.90
D1083	60	62	28.0	0.70	0.81	28 Green	4.1	410	18.8	1.8	6.4	17.90	20.67
	70	71	30.8	0.59	0.68		4.8	480	21.6	1.9	7.0	15.01	17.34
	80	72	32.4	0.60	0.70		5.5	550	21.9	2.0	7.4	15.28	17.64

\* Factory Installed

### D55 SERIES

Part Number	Pressure		Max Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure		Max Radius	Discharge	Precipitation Rate <sup>1</sup>	
	PSI	FT			GPM	IN/HR■		IN/HR▲	BAR			kPa	m
D1056	60	37	7.9	0.56	0.64	8 Black	4.1	410	11.2	0.5	1.8	14.18	16.37
	70	37	10.1	0.71	0.82		4.8	480	11.2	0.6	2.3	18.13	20.93
	80	—	—	—	—		5.5	550	—	—	—	—	—
D1187	60	40	9.0	0.54	0.63	12 Gray	4.1	410	12.2	0.6	2.0	13.82	15.96
	70	40	12.0	0.72	0.83		4.8	480	12.2	0.8	2.7	18.43	21.28
	80	—	—	—	—		5.5	550	—	—	—	—	—
D1057	60	49	11.9	0.48	0.55	14 Yellow	4.1	410	14.9	0.8	2.7	12.18	14.06
	70	47	14.5	0.63	0.73		4.8	480	14.3	0.9	3.3	16.13	18.63
	80	—	—	—	—		5.5	550	—	—	—	—	—
D1060	60	53	15.0	0.51	0.59	16 Orange	4.1	410	16.1	0.9	3.4	13.12	15.15
	70	51	16.3	0.60	0.70		4.8	480	15.5	1.0	3.7	15.40	17.78
	80	—	—	—	—		5.5	550	—	—	—	—	—
D1059	60	57	16.8	0.50	0.58	18 Brown	4.1	410	17.3	1.1	3.8	12.71	14.67
	70	55	18.3	0.58	0.67		4.8	480	16.7	1.2	4.2	14.87	17.17
	80	—	—	—	—		5.5	550	—	—	—	—	—
D1228	60	55	19.7	0.63	0.72	19 Red	4.1	410	16.7	1.2	4.5	16.00	18.48
	70	55	21.1	0.67	0.78		4.8	480	16.7	1.3	4.8	17.14	19.79
	80	59	22.2	0.61	0.71		5.5	550	18.0	1.4	5.0	15.59	18.00
D1069	60	61	21.2	0.55	0.63	25* Blue	4.1	410	18.5	1.3	4.8	14.00	16.17
	70	59	24.4	0.68	0.78		4.8	480	17.9	1.5	5.5	17.22	19.89
	80	65	26.4	0.60	0.69		5.5	550	19.8	1.7	6.0	15.27	17.64
D1058	60	63	26.4	0.64	0.74	28 Green	4.1	410	19.2	1.7	6.0	16.35	18.87
	70	65	26.2	0.60	0.69		4.8	480	19.8	1.7	6.0	15.24	17.60
	80	67	32.4	0.66	0.76		5.5	550	20.4	1.9	6.9	16.66	19.24

\* Factory Installed

# GOLF - MID RANGE ROTORS

## D70C50A

1½" Full Circle Rotor with Check Valve, ACME

## D70E5080A

1½" Full Circle Rotor; Electric VIH, ACME

## D70H50A

1½" Full Circle Rotor; Hydraulic VIH, ACME

- \* **Pressure Regulation**  
(Electric Model Only)  
60, 70, 80 (Standard Pressure), 90 or 100 PSI
- \* **Inlet thread availability; NPT, BSP, or ACME**  
(standard stocking item)
- \* **Re-Claimed Water Versions Available**



## SPECIFICATIONS

### OPERATING RANGE:

60-100 psi (4,1 – 6,9 bar)

### MAXIMUM PRESSURE:

100 psi (6,9 bar)

### MINIMUM PRESSURE:

40 psi (2,7 bar)

### DISCHARGE:

11.0 to 31.3 gpm (2,49 – 7,11 m³/hr)

### POP-UP HEIGHT:

4" (10 cm)

### BODY HEIGHT:

10¾" (27,3 cm)

### TOP DIAMETER:

7½" (19,1 cm)

### INLET SIZE:

1½" (38,1 mm) female NPT

1½" (38,1 mm) female BSP

1¼" (31,75 mm) female ACME

### CHECK VALVE MODELS:

Holds back up to 15' (4,5 m) difference in elevation

### # PER BOX:

4

## D75C32A

1½" Part Circle Rotor with Check Valve, ACME

## D75E3280A

1½" Part Circle Rotor; Electric VIH, ACME

## D75H32A

1½" Part Circle Rotor; Hydraulic VIH, ACME

## D75XC3516A

1½" X-Series Rotor; with Check Valve, ACME

## D75XE351680A

1½" X-Series Rotor; Electric VIH, ACME

## D75XH3516A

1½" X-Series Rotor; Hydraulic VIH, ACME

- \* **Pressure Regulation**  
(Electric Model Only)  
60, 70, 80 (Standard Pressure), 90 or 100 PSI
- \* **Inlet thread availability; NPT, BSP, or ACME**  
(standard stocking item)
- \* **Re-Claimed Water Versions Available**



D001



D002



D004



D038

## Accessories

### D001

Snap ring/pilot valve tool

### D002

Pilot valve key

### D004

1¼" ACME & 1½" NPT/BSP valve insertion tool

### D038

Pressure gauge

## FEATURES

- A full 4-inch pop-up clears tall turfgrass for even coverage.
- Rolled-over flange keeps turfgrass clear of riser and nozzle.
- Stainless-steel riser resists damage and vandalism.
- Tough, commercial-grade plastic case stands up to punishment.
- Special design eliminates blow-by and reduces pressure loss to improve system performance.
- Dual-direction flushing protects internals from debris and ensures positive pop-up/down.
- Uniform coverage with square or triangular spacing.
- Full-circle and adjustable patterns for maximum flexibility.
- Easy arc adjustment in the field without any tools.
- Nozzle kit offers fully interchangeable nozzles and is included with each rotor.
- Unique manual On/Off control for hydraulic rotors.
- Heavy-duty spring assures positive retraction.
- Radius can be adjusted up to 25 percent for best coverage.
- Compact cartridge design allows for quick and easy repair.
- Quick lock design allows internals to be serviced from the rotor's top.
- D70/D75 C Models include factory-installed check valve.
- D70/D75 E Models feature electric valve and head.
- D70/D75 H Models are N.O. hydraulically controlled.
- D75 X-Series are dual part-circle rotors with adjustable radii.

**Note:**

- Pressure springs other than the standard, pressure springs as noted above shall be made available upon request and for installation by others. Additional charges will occur.
- Nozzles other than standard will be shipped loose for installation by others.

### D70 SERIES

Part Number	Pressure		Max Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure		Max Radius	Discharge	Precipitation Rate <sup>1</sup>	
	PSI	FT			GPM	IN/HR		IN/HR▲	BAR			kPa	m
D1085	60	67	33.2	0.71	0.82	37 Red	4.1	410	20.4	2.1	7.5	18.19	21.00
	70	73	36.1	0.65	0.75		4.8	480	22.2	2.3	8.2	16.65	19.23
	80	77	48.1	0.78	0.90		5.5	550	23.4	3.0	10.9	19.94	23.03
	90	73	36.1	0.65	0.75		6.2	620	22.2	2.3	8.2	16.65	19.23
D1086	60	65	34.3	0.78	0.90	40 Gray	4.1	410	19.8	2.2	7.8	19.95	23.04
	70	73	38.6	0.70	0.81		4.8	480	22.2	2.4	8.8	17.82	20.58
	80	79	50.6	0.78	0.90		5.5	550	24.0	3.2	11.5	19.90	22.98
	90	75	42.6	0.73	0.73		6.2	620	22.8	2.7	9.7	18.61	21.50
D1087	60	67	36.8	0.79	0.91	45 Green	4.1	410	20.4	2.3	8.4	20.16	23.28
	70	76	41.7	0.70	0.80		4.8	480	23.1	2.6	9.5	17.74	20.49
	80	85	52.5	0.70	0.81		5.5	550	25.8	3.3	11.9	17.87	20.63
	90	83	45.9	0.64	0.74		6.2	620	25.2	2.9	10.4	16.36	18.89
D1088	60	73	44.6	0.81	0.93	50* Black	4.1	410	22.2	2.8	10.1	20.56	23.74
	70	77	46.9	0.76	0.88		4.8	480	23.4	3.0	10.7	19.46	22.47
	80	89	56.2	0.68	0.79		5.5	550	27.1	3.5	12.8	17.42	20.12
	90	89	51.3	0.62	0.72		6.2	620	27.1	3.2	11.6	15.91	18.37
D1089	60	75	46.0	0.79	0.91	57 Blue	4.1	410	22.8	2.9	10.5	20.11	23.23
	70	79	48.8	0.75	0.87		4.8	480	24.0	3.1	11.1	19.20	22.17
	80	93	61.7	0.69	0.79		5.5	550	28.3	3.9	14.0	17.54	20.26
	90	93	54.2	0.60	0.70		6.2	620	28.3	3.4	12.3	15.39	17.77

\* Factory Installed

### D75 SERIES

Part Number	Pressure		Max Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure		Max Radius	Discharge	Precipitation Rate <sup>1</sup>	
	PSI	FT			GPM	IN/HR		IN/HR▲	BAR			kPa	m
D1201	60	67	27.5	0.59	0.68	32* Yellow	4.1	410	20.4	1.7	6.2	15.03	17.35
	70	69	29.3	0.59	0.68		4.8	480	21.0	1.8	6.6	15.10	17.44
	80	69	31.6	0.64	0.74		5.5	550	21.0	2.0	7.2	16.31	18.83
	90	71	33.1	0.63	0.73		6.2	620	21.6	2.1	7.5	16.11	18.60
D1097	60	67	28.0	0.60	0.69	36 Gray	4.1	410	20.4	1.8	6.4	15.32	17.69
	70	69	32.2	0.65	0.75		4.8	480	21.0	2.0	7.3	16.59	19.16
	80	69	34.0	0.69	0.79		5.5	550	21.0	2.1	7.7	17.52	20.23
	90	73	36.5	0.66	0.76		6.2	620	22.2	2.3	8.3	16.82	19.43
D1020	60	65	32.3	0.74	0.85	41 Orange	4.1	410	19.8	2.0	7.3	18.80	21.71
	70	71	34.5	0.76	0.76		4.8	480	21.6	2.2	7.8	16.81	19.41
	80	73	37.7	0.79	0.79		5.5	550	22.2	2.4	8.6	17.40	20.10
	90	73	39.9	0.72	0.83		6.2	620	22.2	2.5	9.1	18.40	21.25

\* Factory Installed



# GOLF - SHORT & MID RANGE INTERNAL REPLACEMENTS

## SPECIFICATIONS

### SIGNATURE REPLACEMENT INTERNALS

#### DI5025

D50 Replacement Internal, #25 Blue Nozzle

#### DI50B25

D50B Replacement Internal, #25-Blue Nozzle

#### DI5525

D55 Replacement Internal, #25-Blue Nozzle

#### DI55B25

D55B Replacement Internal, #25-Blue Nozzle

#### DI55X25 I4

D55X Replacement Internal,  
#25-Blue (Front) / #14-Yellow (Rear)

#### DI7050

D70 Replacement Internal, #50-Black Nozzle

#### DI7532

D75 Replacement Internal, #32-Yellow Nozzle

#### DI75X35 I8

D75X Replacement Internal,  
#35-Yellow (Front) / #18-Brown (Rear)

### Rain Bird® REPLACEMENT INTERNALS

#### DI47R25

Rain Bird® 47DR Replacement Internal,  
#25-Blue Nozzle

#### DI47RX25 I4

Rain Bird® 47DR X-Series Replacement Internal,  
#25-Blue (Front) / #14-Yellow (Rear)

#### DI51R25

Rain Bird® 51DR Replacement Internal,  
#25-Blue Nozzle

#### DI700R25

Rain Bird® Eagle 700 Replacement Internal,  
#25-Blue Nozzle

#### DI750R25

Rain Bird® Eagle 750 Replacement Internal,  
#25-Blue Nozzle

#### DI750RX25 I4

Rain Bird® Eagle 750 X-Series Replacement Internal,  
#25-Blue (Front) / #14-Yellow (Rear)

#### DI694T50



#### DI6735T25



#### DI7532



#### DI5025



#### DI47R25



### REPLACEMENTS FOR TORO®:

#### 1" Inlet Bodies

**DI6734T Full-circle,  
DI6735T Part-circle,  
DI865T Part-circle**

Radius: 52'-75'  
Flowrate: 11.0-35.5 GPM  
Replacement Upgrades for:  
TORO® 630, 660, 730, 760 and 830, 860

#### 1½" Inlet Bodies

**DI674754T Full-circle**

Radius: 66'-100'  
Flowrate: 25.1-66.0 GPM  
Replacement Upgrade for:  
TORO® 650, 670, 680, 750, 780

**DI6785T Part-circle**

Radius: 56'-82'  
Flowrate: 13.0-35.3 GPM  
Replacement Upgrade for:  
TORO® 650, 680, 750, 780

**DI694T Full-circle**

Radius: 91'-100'  
Flowrate: 57.0-66.0 GPM  
Replacement Upgrade for: Toro 690

### REPLACEMENTS FOR Rain Bird®:

#### 1¼" Inlet Bodies

**DI700R Full-circle,  
DI750R Part-circle**

Radius: 53'-72'  
Flowrate: 12.5-33.0 GPM  
Replacement Upgrades for:  
Rain Bird® Eagle 700, Eagle 750

#### 1½" Inlet Bodies

**DI51R Full-circle, DI47R Part-circle**

Radius: 53'-72'  
Flowrate: 12.5-33.0  
GPM Replacement Upgrades for:  
Rain Bird® 47D, 51D

### TORO® REPLACEMENT INTERNALS

#### DI6734T25

1" TORO® 630/730, 660/760 Insert,  
#25-Blue Nozzle

#### DI6735T25

1" TORO® 635/735, 665/765 Insert,  
#25-Blue Nozzle

#### DI6735TX25

1" TORO® 630, 660, 730 & 760  
X-Series Insert, #25-Blue (Front) /  
#14-Yellow (Rear)

#### DI6785T26

1½" TORO® 650/750, 680/780 Insert,  
#26-Blue Nozzle

#### DI6785TX I6

1½" TORO® 650/750, 680/780  
X-Series Insert, #30-Yellow (Front) /  
#16-Orange (Rear)

#### DI674754T50

1½" TORO® 650/750, 680/780 Insert,  
#50-Black Nozzle

#### DI694T50

1½" TORO® 690 Insert, #50-Black Nozzle

#### DI834T25

1" TORO® 830/860 Insert, #25-Blue Nozzle

#### DI865T25

1" TORO® 835/865 Insert, #25-Blue Nozzle

DI6785T Performance Data

Pressure			Radius			Discharge			Nozzle Number		Pressure			Radius			Discharge			Toro® Nozzle Reference						
PSI	FT	GPM	BAR	m	L/s	650	780			650	780			650	780			650	780							
50	56	13.0	3.4	17.0	0.82			<b>16</b> Orange		<b>54</b>	<b>83</b>	50	21	4.9	3.4	17.0	0.82									
60	57	14.2	4.1	17.3	0.89							60	34	5.4	4.1	10.3	0.34									
70	58	15.4	4.8	17.6	0.97							70	39	6.3	4.8	11.8	0.39									
80	59	16.4	5.5	17.9	1.03							80	—	—	5.5	—	—									
90	60	17.5	6.2	18.2	1.10							90	—	—	6.2	—	—									
100	61	18.6	6.9	18.5	1.17			100	—	—	6.9	—	—													
50	61	16.4	3.4	18.5	1.03			<b>21</b> Brown		<b>55</b>	<b>84</b>	50	30	6.8	3.4	9.1	0.42									
60	62	18.0	4.1	18.8	1.13							60	32	7.6	4.1	9.7	0.47									
70	64	19.4	4.8	19.5	1.22							70	34	8.4	4.8	10.3	0.52									
80	65	20.7	5.5	19.8	1.30							80	—	—	5.5	—	—									
90	68	21.9	6.2	20.7	1.38							90	—	—	6.2	—	—									
100	70	23.1	6.9	21.3	1.45			100	—	—	6.9	—	—													
50	62	21.8	3.4	18.8	1.37			<b>26</b> Blue		<b>56</b>	<b>85</b>	50	53	11.0	3.4	16.1	0.69									
60	64	23.4	4.1	19.5	1.47							60	55	12.9	4.1	16.7	0.81									
70	66	24.8	4.8	20.1	1.56							70	57	14.5	4.8	17.3	0.91									
80	67	26.0	5.5	20.4	1.64							80	—	—	5.5	—	—									
90	70	28.1	6.2	21.3	1.77							90	—	—	6.2	—	—									
100	70	28.1	6.9	21.3	1.77			100	—	—	6.9	—	—													
50	65	22.4	3.4	19.8	1.41			<b>29</b> Red		<b>57</b>	—	50	56	13.1	3.4	17.0	0.82									
60	70	25.2	4.1	21.3	1.58							60	58	14.8	4.1	17.6	0.93									
70	72	27.0	4.8	21.9	1.70							70	60	16.2	4.8	18.2	1.02									
80	75	28.8	5.5	22.8	1.81							80	—	—	5.5	—	—									
90	77	30.6	6.2	23.4	1.93							90	—	—	6.2	—	—									
100	79	32.1	6.9	24.0	2.02			100	—	—	6.9	—	—													
50	66	25.8	3.4	20.1	1.62			<b>32</b> Gray		<b>58</b>	<b>86</b>	50	61	16.5	3.4	18.5	1.04									
60	71	26.9	4.1	21.6	1.69							60	62	17.6	4.1	18.8	1.11									
70	75	29.7	4.8	22.8	1.87							70	63	18.7	4.8	19.2	1.17									
80	78	31.7	5.5	23.7	1.99							80	—	—	5.5	—	—									
90	80	33.5	6.2	24.3	2.11							90	—	—	6.2	—	—									
100	82	35.3	6.9	24.9	2.22			100	—	—	6.9	—	—													

DI5070 & DI3575 Performance Data

Pressure			Radius			Discharge			Nozzle Number		Pressure			Radius			Discharge			Rain Bird® Nozzle Reference					
PSI	FT	GPM	BAR	m	L/s	700	750			700	750			700	750			700	750						
50	21	4.9	3.4	6.4	0.30			<b>06</b> Blank		—	—	50	21	4.9	3.4	6.4	0.30								
60	34	5.4	4.1	10.3	0.34							60	34	5.4	4.1	10.3	0.34								
70	39	6.3	4.8	11.8	0.39							70	39	6.3	4.8	11.8	0.39								
80	—	—	5.5	—	—							80	—	—	5.5	—	—								
90	—	—	6.2	—	—							90	—	—	6.2	—	—								
100	—	—	6.9	—	—			100	—	—	6.9	—	—												
50	30	6.8	3.4	9.1	0.42			<b>08</b> Black		—	—	50	30	6.8	3.4	9.1	0.42								
60	32	7.6	4.1	9.7	0.47							60	32	7.6	4.1	9.7	0.47								
70	34	8.4	4.8	10.3	0.52							70	34	8.4	4.8	10.3	0.52								
80	—	—	5.5	—	—							80	—	—	5.5	—	—								
90	—	—	6.2	—	—							90	—	—	6.2	—	—								
100	—	—	6.9	—	—			100	—	—	6.9	—	—												
50	53	11.0	3.4	16.1	0.69			<b>14</b> Yellow		<b>14</b>	<b>14</b>	50	53	11.0	3.4	16.1	0.69								
60	55	12.9	4.1	16.7	0.81							60	55	12.9	4.1	16.7	0.81								
70	57	14.5	4.8	17.3	0.91							70	57	14.5	4.8	17.3	0.91								
80	—	—	5.5	—	—							80	—	—	5.5	—	—								
90	—	—	6.2	—	—							90	—	—	6.2	—	—								
100	—	—	6.9	—	—			100	—	—	6.9	—	—												
50	56	13.1	3.4	17.0	0.82			<b>16</b> Orange		<b>16</b>	<b>16</b>	50	56	13.1	3.4	17.0	0.82								
60	58	14.8	4.1	17.6	0.93							60	58	14.8	4.1	17.6	0.93								
70	60	16.2	4.8	18.2	1.02							70	60	16.2	4.8	18.2	1.02								
80	—	—	5.5	—	—							80	—	—	5.5	—	—								
90	—	—	6.2	—	—							90	—	—	6.2	—	—								
100	—	—	6.9	—	—			100	—	—	6.9	—	—												
50	61	16.5	3.4	18.5	1.04			<b>16</b> Brown		<b>18</b>	<b>18</b>	50	61	16.5	3.4	18.5	1.04								
60	62	17.6	4.1	18.8	1.11							60	62	17.6	4.1	18.8	1.11								
70	63	18.7	4.8	19.2	1.17							70	63	18.7	4.8	19.2	1.17								
80	—	—	5.5	—	—							80	—	—	5.5	—	—								
90	—	—	6.2	—	—							90	—	—	6.2	—	—								
100	—	—	6.9	—	—			100	—	—	6.9	—	—												
50	63	21.8	3.4	19.2	1.37			<b>25</b> Blue		<b>20</b>	<b>20</b>	50	63	21.8	3.4	19.2	1.37								
60	64	23.4	4.1	19.5	1.47							60	64	23.4	4.1	19.5	1.47								
70	65	24.8	4.8	19.8	1.56							70	65	24.8	4.8	19.8	1.56								
80	68	26.0	5.5	20.7	1.64							80	68	26.0	5.5	20.7	1.64								
90	—	—	6.2	—	—							90	—	—	6.2	—	—								
100	—	—	6.9	—	—			100	—	—	6.9	—	—												
50	65	24.5	3.4	19.8	1.54			<b>28</b> Green		—	—	50	65	24.5	3.4	19.8	1.54								
60	67	26.5	4.1	20.4	1.67							60	67	26.5	4.1	20.4	1.67								
70	69	28.1	4.8	21.0	1.77							70	69	28.1	4.8	21.0	1.77								
80	74	30.5	5.5	22.5	1.92							80	74	30.5	5.5	22.5	1.92								
90	—	—	6.2	—	—							90	—	—	6.2	—	—								
100	—	—	6.9	—	—			100	—	—	6.9	—	—												

DI700R/DI750R & DI51R/DI47R Performance Data

Pressure			Radius			Discharge			Nozzle Number		Pressure			Radius			Discharge			Rain Bird® Nozzle Reference				
PSI	FT	GPM	BAR	m	L/s	47D	51D			47D	51D			47D	51D			47D	51D					
50	52	12.5	3.4	15.8	0.78			<b>14</b> Orange		<b>18</b>	—	50	52	12.5	3.4	15.8	0.78							
60	55	13.5	4.1	16.7	0.85							60	55	13.5	4.1	16.7	0.85							
70	57	15.0	4.8	17.3	0.94							70	57	15.0	4.8	17.3	0.94							
80	61	17.0	5.5	18.5	1.16							80	61	17.0	5.5	18.5	1.16							
90	61	18.0	6.2	18.5	1.16							90	61	18.0	6.2	18.5	1.16							
100	61	19.0	6.9	18.5	1.16			100	61	19.0	6.9	18.5	1.16											

# SPRAYS

SPRAY  
HEADS

<b>APPLICATIONS</b>	<b>63XA</b>	<b>63XB</b>	<b>iStop™ 63XC</b>	<b>iStop™ 63XD</b>	<b>iStop™ 63XE</b>	<b>63S</b>
TURF GRASS)	✓	✓	✓	✓	✓	✓
GROUND COVER	✓	✓	✓	✓	✓	✓
RESIDENTIAL	✓	✓	✓	✓	✓	✓
RECLAIMED WATER	✓	✓	✓	✓	✓	✓
COMMERCIAL/MUNICIPAL	✓	✓	✓	✓	✓	✓
HIGH TRAFFIC AREAS			✓	✓	✓	
HIGH VANDALISM AREAS			✓	✓	✓	
WATER CONSERVATION — iStop™			✓	✓	✓	

<b>FEATURES</b>						
ANTI-DRAIN VALVE (ADV)	(Opt.)*	✓	(Opt.)*	(Opt.)*	✓	(Opt.)*
PRESSURE REGULATION				✓	✓	
WATER CONSERVATION — iStop™			✓	✓	✓	

\*Field Retrofit Option

# PRODUCT OVERVIEW

## STANDARD MODELS

### 63XA



#### STANDARD

- High impact corrosion resistant construction with stainless steel metal components.
- Dome cap design will ensure sand and debris flushes away from the riser to provide for longer life.
- Double lipped wiper seal will help keep debris away from the riser.
- ½" (12,7 mm) bottom inlet is standard on all models.
- All models can be upgraded with an anti-drain valve (ADV) and the new iStop™.
- Standard male thread on the riser.
- All models can be upgraded to use iStop™ with installation of retrofit kit 63XR.

Compatible with **iStop**™ \* Sold Separately

### 63XB



#### WITH ADV

- The 63XB series comes with all the same great features as the standard 63XA model with the addition of the anti-drain valve (ADV).
- The anti-drain valve (ADV) will prevent low head drainage and prevent flooding or erosion.
- Will hold back up to 10 ft (3 m) difference in elevation.
- All models can be upgraded to use iStop™ with installation of retrofit kit 63XR.

Compatible with **iStop**™ \* Sold Separately

### 63S



- High impact corrosion resistant construction with stainless steel metal components.
- Double lipped wiper seal will help keep debris away from the riser.
- ½" (12,7 mm) bottom inlet is standard on all models.
- Standard male thread on the riser.

### NOZZLES



- Wide range of matched precipitation fixed spray.
- Color coded bodies for easy identification.
- Multi-arc nozzles from 8 ft – 17 ft (2.4 m – 5.2 m) radius that can be adjusted from 0° - 360°.
- Wide variety of special pattern nozzles.
- Fixed spray nozzles from 8 ft – 15 ft (2.4 m – 4.6 m) radius in all the various patterns.



## ADVANCED MODELS USING iStop™

### 63XC

iStop™



#### WITH iStop™

- The 63XC series comes with all the same great features as the standard 63XA model with the addition of the new iStop™ feature.
- The new iStop™ saves water by stopping the flow of water on broken or damaged heads as well as stopping the flow of water during nozzle maintenance.

### 63XD

iStop™



#### WITH iStop™ AND PR

- The 63XD series comes the with the iStop™ feature and the addition of a pressure regulating valve.
- The new iStop™ saves water by stopping the flow of water on broken or damaged heads as well as stopping the flow of water during nozzle maintenance.
- The pressure regulator maintains optimum nozzle performance and prevents misting.

### 63XE

iStop™



#### WITH iStop™, PR AND ADV

- The 63XE series comes the with the iStop™ feature, a pressure regulating valve, and a factory installed anti-drain valve (ADV).
- The new iStop™ saves water by stopping the flow of water on broken or damaged heads as well as stopping the flow of water during nozzle maintenance.
- The pressure regulator maintains optimum nozzle performance and prevents misting.
- The anti-drain valve (ADV) will prevent low head drainage and prevent flooding or erosion.
- Will hold back up to 10 ft (3 m) difference in elevation.

### 63XR

iStop™

iStop™  
RETROFIT  
KITS



- Retrofit any existing 6300 sprayhead with new iStop™.
- Shuts off if riser is broken
- Shuts off if nozzle is removed
- The new iStop™ saves water by stopping the flow of water on broken or damaged heads as well as stopping the flow of water during nozzle change out.

SPRAY HEADS

# SPRAYS - RES/COM SPECIFICATION

## STANDARD

### 63XA-02

2½" (6,3 cm) Pop-Up Body

### 63XA-04

4" (10,2 cm) Pop-Up Body

### 63XA-06

6" (15,2 cm) Pop-Up Body

### 63XA-12

12" (30,5 cm) Pop-Up Body

## Pre-Installed MAN

2½" (6,3 cm) Pop-up

Factory Installed MAN Nozzle

### 63XA-02 I 2

### 63XA-02 I 5

### 63XA-02 I 7

4" (10,2 cm) Pop-up

Factory Installed MAN Nozzle

### 63XA-04 I 2

### 63XA-04 I 5

### 63XA-04 I 7

6" (15,2 cm) Pop-up

Factory Installed MAN Nozzle

### 63XA-06 I 2

### 63XA-06 I 5

### 63XA-06 I 7

## WITH ADV

### 63XB-02

2½" (6,3 cm) Pop-up

### 63XB-04

4" (10,2 cm) Pop-up

### 63XB-06

6" (15,2 cm) Pop-up

### 63XB-12

12" (30,5 cm) Pop-up

## WITH iStop™

### 63XC-02

2½" (6,3 cm) Pop-up

### 63XC-04

4" (10,2 cm) Pop-up

### 63XC-06

6" (15,2 cm) Pop-up

### 63XC-12

12" (30,5 cm) Pop-up



## SPECIFICATIONS

### OPERATING RANGE:

15-60 psi (1-4,1 bar)

20-60 psi (1,3-4,1 bar) ADV models

### OPTIMUM PRESSURE:

30 psi (2 bar)

### MAXIMUM PRESSURE:

60 psi (4,1 bar)

### SEALING PRESSURE:

10 psi (0,7 bar)

20 psi (1,3 bar) ADV models

### POP-UP HEIGHT:

2½" (6,3 cm) (63X-02)

4" (10,2 cm) (63X-04)

6" (15,2 cm) (63X-06)

12" (30,5 cm) (63X-12)

### BODY HEIGHT:

3½" (8,9 cm) (63X-02)

3⅞" (9,8 cm) (63X-04)

5⅞" (15 cm) (63X-06)

15" (38,1 cm) (63X-12)

### SHRUB MODEL AVAILABLE

### FLUSH RATE:

0.2 gpm (0,75 l/min)

### INLET SIZE:

½" (12,7 mm) NPT Female thread

### CHECK HEIGHT:

10 ft (3 m) elevation change

### SCREEN MESH:

.045 sq. in. (1,14 mm<sup>2</sup>) / 1150 micron

### EFFLUENT CAP AVAILABLE

### # PER BOX:

50

63X-02 Series, 63X-04 Series, 63X-06 Series

25

63X-12 Series



**WITH iStop™ and PR**

- 63XD-02**  
2½" (6,3 cm) Pop-up
- 63XD-04**  
4" (10,2 cm) Pop-up
- 63XD-06**  
6" (15,2 cm) Pop-up

**WITH iStop™, PR and ADV**

- 63XE-02**  
2½" (6,3 cm) Pop-up
- 63XE-04**  
4" (10,2 cm) Pop-up
- 63XE-06**  
6" (15,2 cm) Pop-up

**iStop™ 63XR RETROFIT KITS**

- 63XR-02**  
2½" (6,3 cm)  
Retrofit iStop™ Kit
- 63XR-04**  
4" (10,2 cm)  
Retrofit iStop™ Kit
- 63XR-06**  
6" (15,2 cm)  
Retrofit iStop™ Kit
- 63XR-12**  
12" (30,5 cm)  
Retrofit iStop™ Kit

**Accessories**

- 6318**  
Piston Extension
- 6319**  
Anti-drain valve (ADV)
- 6390RWC**  
Identifies reclaimed water site
- 6300**  
Shrub Adapter
- 7300**  
Adjustable Bubbler
- 8819**  
Brass automatic drain valve

**63XR**



**6390RWC**



**7300**



**6319**



**6300**



**6318**



**8819**



**ACCESSORY FEATURES**

**iStop™ 63XR RETROFIT KIT**

- Shuts off if the nozzle is removed
- Shuts off is the riser is broken at any point above the top level of the cap
- Retrofit any existing 6300 sprayhead with new iStop™

**6318 (Not Shown)**

- Adds 6" (15, 24 cm) to any series pop-up
- Perfect for landscape areas that need extra clearance
- It threads directly onto the top of the piston and accepts all Signature® spray nozzles

**6319**

- Anti-drain valve (ADV) helps eliminate low head drainage and puddling. Holds back up to 10 ft (3 m) difference in elevation.

**6300**

- Adapt from ½" (12,7mm) NPT to a standard female thread spray nozzle

**7300**

- Provides an umbrella pattern that can be adjusted with a stainless steel set screw
- Bubbler installs on standard ½" (12,7 mm) riser and has a maximum flow of 4.9 gpm (7,6 l/min) at 18" (45 cm) radius

**8819**

- Prevents underground line breakage due to freezing
- Solid brass body
- Automatically opens when line pressure drops below three psi
- ½" male threads
- 5 year warranty on materials and workmanship

Pressure	Radius <sup>1</sup>		Discharge <sup>1</sup>	Model	Pressure		Radius <sup>1</sup>		Discharge <sup>1</sup>	
	PSI	FT			GPM	BAR	kPa	m	L/min	m <sup>3</sup> /hr
20	0.8	2.9	7300 FULL (360°)		1.4	138	0.2	11.0	0.66	
30	0.9	3.5			2.1	207	0.3	13.2	0.79	
40	1.1	4.1			2.8	276	0.3	15.5	0.93	
50	1.2	4.5			3.5	345	0.4	17.0	1.02	
60	1.2	4.9			4.2	414	0.4	18.5	1.11	

<sup>1</sup> Radius and flow can be reduced with adjustment screw.

SPRAY HEADS

# SPRAYS - RESIDENTIAL

## STANDARD

### 63S-03

3" (7,6 cm) Pop-Up Body

### 63S-04

4" (10,2 cm) Pop-Up Body

### including MAN Nozzle

2½" (6,3 cm) Pop-up

Factory Installed MAN Nozzle

### 63S-0312

### 63S-0315

### 63S-0317

4" (10,2 cm) Pop-up

Factory Installed MAN Nozzle

### 63S-0412

### 63S-0415

### 63S-0417

63S-03



63S-04



## SPECIFICATIONS

### OPERATING RANGE:

15-60 psi (1-4,1 bar)

### OPTIMUM PRESSURE:

30 psi (2 bar)

### MAXIMUM PRESSURE:

60 psi (4,1 bar)

### SEALING PRESSURE:

Less than 15 psi (1 bar)

### POP-UP HEIGHT:

3" (7,6 cm) (63S-03)

4" (10,2 cm) (63S-04)

### BODY HEIGHT:

5½" (13,0 cm) (63S-03)

6" (15,2 cm) (63S-04)

### FLUSH RATE:

0.2 gpm (0,75 l/min)

### INLET SIZE:

½" (12,7 mm) NPT Female thread

### SCREEN MESH:

.045 sq. in. (1,14 mm2) / 1150 micron

### # PER BOX:

50 (63S-03 Series, 63S-04 Series)

8' (2,4 m) FIXED PATTERN (5° Trajectory - flat)

Pressure			Radius		Discharge		Precipitation Rate <sup>1</sup>		Model	Pressure			Radius		Discharge		Precipitation Rate <sup>1</sup>							
PSI	FT. R	GPM	■	▲	IN/HR	▲	■	BARS		M	M/H	L/min	■	MM/HR	▲	■	M/HR	L/min	■	MM/HR				
15	6	1.0	2.3	2.8	2.8			1.1	104	1.8	0.23	3.8	58.4	71.1	7284 8F-FLT FULL (360°)									
20	7	1.2	2.1	2.6				1.4	138	2.1	0.27	4.5	53.3	66.0										
25	7	1.2	2.0	2.5				1.8	173	2.1	0.27	4.5	50.8	63.5										
30	8	1.5	1.9	2.4				2.1	207	2.4	0.34	5.7	48.2	61.0										
15	6	0.5	2.3	2.8				1.1	104	1.8	0.11	1.9	58.4	71.1						7282 8H-FLT 1/2 (180°)				
20	7	0.6	2.1	2.6				1.4	138	2.1	0.14	2.3	53.3	66.0										
25	7	0.6	2.0	2.5				1.8	173	2.1	0.14	2.3	50.8	63.5										
30	8	0.7	1.9	2.3				2.1	207	2.4	0.16	2.6	48.2	61.0										
15	6	0.3	2.3	2.8				1.1	104	1.8	0.07	1.1	58.4	71.1	7281 8Q-FLT 1/4 (90°)									
20	7	0.3	2.1	2.6				1.4	138	2.1	0.07	1.1	53.3	66.0										
25	7	0.3	2.0	2.5				1.8	173	2.1	0.07	1.1	50.8	63.5										
30	8	0.4	1.9	2.3				2.1	207	2.4	0.09	1.5	48.2	61.0										



10' (3,1 m) FIXED PATTERN (15° Trajectory - low angle)

Pressure			Radius		Discharge		Precipitation Rate <sup>1</sup>		Model	Pressure			Radius		Discharge		Precipitation Rate <sup>1</sup>							
PSI	FT. R	GPM	■	▲	IN/HR	▲	■	BARS		M	M/H	L/min	■	MM/HR	▲	■	M/HR	L/min	■	MM/HR				
15	7	1.2	2.3	2.6				1.1	104	2.1	0.27	4.5	58.4	66.0	7274 10F-LA FULL (360°)									
20	8	1.3	2.0	2.3				1.4	138	2.4	0.30	4.9	50.8	58.4										
25	9	1.4	1.7	2.0				1.8	173	2.7	0.32	5.3	43.2	50.8										
30	10	1.6	1.5	1.8				2.1	207	3.1	0.36	6.1	38.1	45.7										
15	7	0.6	2.3	2.6				1.1	104	2.1	0.14	2.3	58.4	66.0						7272 10H-LA 1/2 (180°)				
20	8	0.6	2.0	2.3				1.4	138	2.4	0.14	2.3	50.8	58.4										
25	9	0.7	1.7	2.0				1.8	173	2.7	0.16	2.6	43.2	50.8										
30	10	0.8	1.5	1.8				2.1	207	3.1	0.18	3.0	38.1	45.7										
15	7	0.3	2.3	2.6				1.1	104	2.1	0.06	1.1	58.4	66.0	7271 10Q-LA 1/4 (90°)									
20	8	0.3	2.0	2.3				1.4	138	2.4	0.06	1.1	50.8	58.4										
25	9	0.4	1.7	2.0				1.8	173	2.7	0.09	1.5	43.2	50.8										
30	10	0.4	1.5	1.8				2.1	207	3.1	0.09	1.5	38.1	45.7										



12' (3,7 m) FIXED PATTERN (30° Trajectory - low gallonage)

Pressure			Radius		Discharge		Precipitation Rate <sup>1</sup>		Model	Pressure			Radius		Discharge		Precipitation Rate <sup>1</sup>							
PSI	FT. R	GPM	■	▲	IN/HR	▲	■	BARS		M	M/H	L/min	■	MM/HR	▲	■	M/HR	L/min	■	MM/HR				
15	9	1.8	2.1	2.5				1.1	104	2.7	0.40	6.8	53.3	63.5	7374 12F FULL (360°)									
20	10	2.1	2.0	2.3				1.4	138	3.1	0.48	7.9	50.8	58.4										
25	11	2.4	1.9	2.2				1.8	173	3.4	0.54	9.1	48.2	55.9										
30	12	2.6	1.7	2.0				2.1	207	3.7	0.59	9.8	43.2	50.8										
15	9	1.4	2.1	2.5				1.1	104	2.7	0.32	5.3	53.3	63.5						7373 12TQ 3/4 (270°)				
20	10	1.6	2.0	2.3				1.4	138	3.1	0.36	6.1	50.8	58.4										
25	11	1.8	1.9	2.2				1.8	173	3.4	0.41	6.8	48.2	55.9										
30	12	2.0	1.7	2.0				2.1	207	3.7	0.45	7.6	43.2	50.8										
15	9	1.2	2.1	2.5				1.1	104	2.7	0.27	5.5	53.3	63.5	7375 12TT 2/3 (240°)									
20	10	1.4	2.0	2.3				1.4	138	3.1	0.32	5.3	50.8	58.4										
25	11	1.6	1.9	2.2				1.8	173	3.4	0.36	6.1	48.2	55.9										
30	12	1.7	1.7	2.0				2.1	207	3.7	0.39	6.4	43.2	50.8										
15	9	0.9	2.1	2.5				1.1	104	2.7	0.20	3.4	53.3	63.5						7372 12H 1/2 (180°)				
20	10	1.1	2.0	2.3				1.4	138	3.1	0.25	4.2	50.8	58.4										
25	11	1.2	1.9	2.2				1.8	173	3.4	0.27	4.5	48.2	55.9										
30	12	1.3	1.7	2.0				2.1	207	3.7	0.30	4.9	43.2	50.8										
15	9	0.6	2.1	2.5				1.1	104	2.7	0.14	2.3	53.3	63.5	7376 12T 1/3 (120°)									
20	10	0.7	2.0	2.3				1.4	138	3.1	0.16	2.6	50.8	58.4										
25	11	0.8	1.9	2.2				1.8	173	3.4	0.18	3.0	48.2	55.9										
30	12	0.9	1.7	2.0				2.1	207	3.7	0.20	3.1	43.2	50.8										
15	9	0.5	2.1	2.5				1.1	104	2.7	0.11	1.9	53.3	63.5						7371 12Q 1/4 (90°)				
20	10	0.5	2.0	2.3				1.4	138	3.1	0.11	1.9	50.8	58.4										
25	11	0.6	1.9	2.2				1.8	173	3.4	0.14	2.3	48.2	55.9										
30	12	0.7	1.7	2.0				2.1	207	3.7	0.16	2.6	43.2	50.8										



15' (4,6 m) FIXED PATTERN (30° Trajectory - standard)

Pressure			Radius		Discharge		Precipitation Rate <sup>1</sup>		Model	Pressure			Radius		Discharge		Precipitation Rate <sup>1</sup>							
PSI	FT. R	GPM	■	▲	IN/HR	▲	■	BARS		M	M/H	L/min	■	MM/HR	▲	■	M/HR	L/min	■	MM/HR				
15	11	2.6	2.1	2.4				1.1	104	3.4	0.59	9.8	53.3	60.7	7074 15F FULL (360°)									
20	12	3.0	2.0	2.3				1.4	138	3.7	0.68	11.4	50.8	58.4										
25	14	3.3	1.6	1.9				1.8	173	4.3	0.75	12.5	40.6	48.2										
30	15	3.7	1.6	1.8				2.1	207	4.6	0.84	14.0	40.6	45.7										
15	11	2.0	2.1	2.4				1.1	104	3.4	0.45	7.6	53.3	60.7						7073 15TQ 3/4 (270°)				
20	12	2.3	2.0	2.3				1.4	138	3.7	0.52	8.7	50.8	58.4										
25	14	2.5	1.6	1.9				1.8	173	4.3	0.57	9.5	40.6	48.2										
30	15	2.8	1.6	1.8				2.1	207	4.6	0.64	10.6	40.6	45.7										
15	11	1.7	2.1	2.4				1.1	104	3.4	0.39	6.4	53.3	60.7	7075 15TT 2/3 (240°)									
20	12	2.0	2.0	2.3				1.4	138	3.7	0.45	7.6	50.8	58.4										
25	14	2.2	1.6	1.9				1.8	173	4.3	0.50	8.3	40.6	48.2										
30	15	2.5	1.6	1.8				2.1	207	4.6	0.57	9.5	40.6	45.7										
15	11	1.3	2.1	2.4				1.1	104	3.4	0.30	4.9	53.3	60.7						7072 15H 1/2 (180°)				
20	12	1.5	2.0	2.3				1.4	138	3.7	0.34	5.7	50.8	58.4										
25	14	1.7	1.6	1.9				1.8	173	4.3	0.39	6.4	40.6	48.2										
30	15	1.9	1.6	1.8				2.1	207	4.6	0.43	7.2	40.6	45.7										
15	11	0.9	2.1	2.4				1.1	104	3.4	0.20	3.4	53.3	60.7	7076 15T 1/3 (120°)									
20	12	1.0	2.0	2.3				1.4	138	3.7	0.22	3.8	50.8	58.4										
25	14	1.1	1.6	1.9				1.8	173	4.3	0.25	4.2	40.6	48.2										
30	15	1.2	1.6	1.8				2.1	207	4.6	0.27	4.5	40.6	45.7										
15	11	0.7	2.1	2.4				1.1	104	3.4	0.16	2.6	53.3	60.7						7071 15Q 1/4 (90°)				
20	12	0.8	2.0	2.3				1.4	138	3.7	0.18	3.0	50.8	58.4										
25	14	0.8	1.6	1.9				1.8	173	4.3	0.18	3.0	40.6	48.2										
30	15	0.9	1.6	1.8				2.1	207	4.6	0.20	3.4	40.6	45.7										



SPECIAL PATTERN

Pressure			Radius		Discharge		Precipitation Rate <sup>1</sup>		Model	Pressure			Radius		Discharge		Precipitation Rate <sup>1</sup>		
PSI	FT. R	GPM	■	▲	IN/HR	▲	■	BARS		M	M/H	L/min	■	MM/HR	▲	■	M/HR	L/min	■
15	18 X 18	2.6	3.1	3.6				1.1	104	5.5 X 5.5									

# VALVES

VALVES



APPLICATIONS	Quantum	9000	7900	9501	9502	9515-9520
RESIDENTIAL		✓	✓	✓		
COMMERCIAL/MUNICIPAL			✓	✓	✓	✓
FLOW CONTROL		✓	✓	✓	✓	✓
W/O FLOW CONTROL	✓	✓	✓	✓		
HIGH PRESSURE	✓			✓	✓	
RECLAIMED WATER		✓	✓	✓	✓	✓
EZ CONNECT™				✓	✓	
PRESSURE REGULATED	✓					

APPLICATIONS	1" QCV 7640
COMMERCIAL	✓
ATHLETIC FIELDS	✓
SPORTS TURF	✓
RECLAIMED WATER	✓
1" INLET (25,4 MM)	✓

# PRODUCT OVERVIEW

## Quantum Series



- Simple proven design has few moving parts.
- Available with built in pressure regulation.
- Comes in 1" (25,4 mm) — 2" (50, 8 mm) Male BSP and NPT models.
- Easy to operate internal bleed system.
- Heavy duty glass filled Nylon construction.

## 9000



- Simple proven design has few moving parts.
- Available with or without flow control.
- Comes in 1" (25,4 mm) NPT, Slip or BSP versions.
- Easy to operate internal manual bleed.
- PVC construction makes gluing a snap with the slip configuration.

## 7900



- Heavy duty glass filled nylon construction.
- Simple proven design has few moving parts.
- Available with or without flow control.
- Comes in 1" (25,4 mm) NPT or BSP versions.
- Bayonet mounted bonnet for quick and easy servicing.

**9501**

- ¾" (19,05 mm) & 1" (25,4 mm) EZ connect union valve makes installation and valve replacement a snap.
- Heavy duty glass filled nylon construction.
- Available with or without flow control.
- Many ¾" (19,05 mm) and 1" (25,4 mm) fittings available: BSP female, BSP male, Barb, Slip, NPT Female and NPT male.
- Bayonet mounted bonnet for quick and easy servicing.

**9502**

- 1½" – 2" (38,1 mm – 50,8 mm) EZ connect union valve makes installation and valve replacement a snap.
- Heavy duty glass filled nylon body with a PVC bonnet.
- Many 1½" (38,1 mm) and 2" (50,8 mm) fittings available: BSP female, Slip, NPT Female and Isolation valves.
- Eight stainless steel nuts grip into the bonnet to accommodate for extreme climatic fluctuations.

**9515-9520**

- 1½" (38,1 mm) and 2" (50,8 mm) combination globe or angle valve.
- Heavy duty glass filled nylon body with a PVC bonnet.
- Eight stainless steel nuts grip into the bonnet to accommodate for extreme climatic fluctuations.
- 200 PSI (13,8 bar) rated for heavy duty applications.

**1" QCV 7640**

- 1" (25,4 mm) quick coupling valves with rubber covers.
- Available with locking covers.
- Reclaimed water covers.
- Featuring ACME threads for convenient flow control.

# VALVES

**D100E**

1" (25,4 mm) electric angle pressure regulated valve NPT MxM

**D150E**

1 1/2" (38,1 mm) electric globe pressure regulated valve NPT MxM

**D150E3**

1 1/2" (38,1 mm) 3-way electric globe pressure regulated valve NPT MxM

**D150H**

1 1/2" (38,1 mm) hydraulic globe pressure regulated valve NPT MxM

**D200E**

2" (50,8 mm) electric globe pressure regulated valve NPT MxM

**D200EB**

2" (50,8 mm) electric globe pressure regulated valve BSP MxM

**D200E3**

2" (50,8 mm) 3-way electric globe pressure regulated valve NPT MxM

**D200H**

2" (50,8 mm) hydraulic globe pressure regulated valve NPT MxM

EB = BSP

**D100E**



**D150/D200 Series**



## SPECIFICATIONS

**FLOW RATE:**

1" = 5-40 gpm  
1,5" = 30-180 gpm  
2" = 30-180 gpm

**FACTORY PRESSURE SETTINGS:**

Available in 35, 50, 65 and 80 psi

**STANDARD FACTORY SETTINGS:**

80 psi (5,5 bar)\* (see Note)

**SOLENOID:**

24 VAC 50/60 Hz  
Inrush Amps: 0.30  
Holding Amps: 0.20

VALVES

## FEATURES

- High Performance
- Low pressure loss
- Unique snap ring serviceability
- 200 PSI pressure rating
- Common solenoid with valve-in-head (E-models)
- Male pipe threads for strength and high-pressure rating

**Note:**

\* Pressure springs other than the standard, pressure springs as noted above shall be made available upon request and for installation by others. Additional charges will occur.

**Quantum Series Valve Pressure Loss**

PSI Loss	Flow Rate (GPM)								
	5	10	20	30	40				
1"	2.0	2.5	3.5	5.0	8.5				
PSI Loss	Flow Rate (GPM)								
	30	40	50	70	90	100	120	150	180
1 1/2"	1.5	1.5	1.5	1.5	3.5	4.0	5.0	5.5	8.0
2"	1.5	1.5	1.5	3.5	4.5	5.5	6.0	9.0	—

**9001 (9003)**

Manual Internal Bleed 1" (25,4 mm) globe

**9002**

Manual Internal Bleed 1" (25,4 mm) globe slip

**9011 (9013)**

Manual Internal Bleed 1" (25,4 mm) globe with flow control

**9012**

Manual Internal Bleed 1" (25,4 mm) globe slip with flow control

*Note: Versions in parenthesis feature BSP threading*

**Accessories**

**7962**

24V AC 50/60 HZ

**7962RW**

24V AC 50/60 HZ  
Reclaimed water solenoid



**SPECIFICATIONS**

**FLOW RANGE:**

Less than 1 to 30 gpm  
(0,23 – 6,81 m<sup>3</sup>/hr)

**MINIMUM PRESSURE:**

10 psi (0,7 bar)

**MAXIMUM PRESSURE:**

150 psi (10,3 bar)

**INPUT:**

24V AC

**INRUSH CURRENT:**

0.50 Amps or less

**HOLDING CURRENT:**

0.23 Amps

**THREADING:**

NPT (9001, 9011)

Slip (9002, 9012)

BSP (9003, 9013)

**DIMENSIONS (l x w x h)**

4½" (10,8 cm) x 3<sup>7</sup>/<sub>8</sub>" (9,8 cm) x 5<sup>1</sup>/<sub>8</sub>" (13 cm) (9001, 9011, 9012)

**# PER BOX:**

20

VALVES

**FEATURES**

- Directly compatible with SoloRain® series of battery-operated actuators
- Simple, proven design has few moving parts
- Easy-to-use flow control allows tailored adjustments in all job site conditions
- Fully encapsulated solenoid with a stainless steel plunger
- Molded in solenoid seat for tighter tolerance parts
- Manual internal bleed is easy to operate – just twist the solenoid
- Fabric reinforced diaphragm for increased durability
- High grade PVC makes solvent welding an ease with slip configurations
- Six stainless steel phillips head screws
- Flat is added on all slip versions to force glue away from solenoid port, to prevent clogging

**9001, 9002, 9003 GLOBE VALVE  
9011, 9012, 9013 GLOBE VALVE**

Flow	Pressure Loss	Flow	Pressure Loss	Flow	Pressure Loss
GPM	PSI	L/min	kPa	m <sup>3</sup> /hr	BAR
1	4.0	3.8	28	0.23	0.3
5	2.5	18.9	17	1.14	0.2
10	2.0	37.9	14	2.27	0.1
15	2.5	56.8	17	3.41	0.2
20	3.5	75.7	24	4.54	0.2
25	4.5	94.6	31	5.68	0.3
30	6.5	113.6	45	6.81	0.5

## VALVES

### 7901 (7916)

Manual Internal Bleed 1" (25,4 mm) globe

### 7911 (7917)

Manual Internal Bleed 1" (25,4 mm) globe with flow control

*Note: Versions in parenthesis feature BSP threading*

### Accessories

#### 7962

24V AC 50/60 HZ

#### 7962RW

24V AC 50/60 HZ  
Reclaimed water solenoid

7901



7911



7962



7962RW



## SPECIFICATIONS

### FLOW RANGE:

Less than 1 to 30 gpm  
(0,23 – 6,81 m<sup>3</sup>/hr)

### MINIMUM PRESSURE:

10 psi (0,7 bar)

### MAXIMUM PRESSURE:

150 psi (10,3 bar)

### INPUT:

24V AC

### INRUSH CURRENT:

0,50 Amps or less

### HOLDING CURRENT:

0,23 Amps

### THREADING:

NPT (7901, 7911)

BSP (7916, 7917)

### DIMENSIONS (l x w x h)

4" (10,2 cm) x 2<sup>3</sup>/<sub>4</sub>" (7 cm) x 5" (12,7 cm)  
(7901, 7911)

3<sup>3</sup>/<sub>4</sub>" (9,5 cm) x 2<sup>3</sup>/<sub>4</sub>" (7 cm) x 5<sup>7</sup>/<sub>8</sub>" (15 cm)  
(7931, 7941)

### # PER BOX:

20

## FEATURES

- Directly compatible with SoloRain<sup>®</sup> series of battery-operated actuators
- Body and bonnet made of glass reinforced nylon to prevent leaks and breaks
- Simple valve configuration and design; few moving parts
- Solenoid has stainless steel plunger and spring to prevent corrosion
- Manual internal bleed keeps valve box dry
- Bayonet-mounted bonnet with captured diaphragm for quick and easy servicing
- Fabric reinforced diaphragm for increased durability
- Easy-to-use flow control permits manual adjustment of water flow rate (does not apply to models 7901, 7916)
- ACCESSORIES  
7962RW: Reclaimed water solenoid

### 7901 (7916 BSP) & 7911 (7917 BSP) 1" (25,4 mm) Globe Valve

Flow	Pressure Loss	Flow	Pressure Loss	Flow	Pressure Loss
GPM	PSI	L/min	kPa	m <sup>3</sup> /hr	BAR
1	4.0	3.8	28	0.23	0.3
5	2.5	18.9	17	1.14	0.2
10	2.0	37.9	14	2.27	0.1
15	2.5	56.8	17	3.41	0.2
20	3.5	75.7	24	4.54	0.2
25	4.5	94.6	31	5.68	0.3
30	6.5	113.6	45	6.81	0.5

### 7931 & 7941 1" (25,4 mm) Angle Valve

Flow	Pressure Loss	Flow	Pressure Loss	Flow	Pressure Loss
GPM	PSI	L/min	kPa	m <sup>3</sup> /hr	BAR
1	4.0	3.8	28	0.23	0.3
5	2.5	18.9	17	1.14	0.2
10	2.0	37.9	14	2.27	0.1
15	2.5	56.8	17	3.41	0.2
20	3.0	75.7	21	4.54	0.2
25	4.0	94.6	28	5.68	0.3
30	5.5	113.6	38	6.81	0.4

**9501**

Manual Internal Bleed 1" (25,4 mm) union globe

**9501FC**

Manual Internal Bleed 1" (25,4 mm) union globe with flow control

**3/4" Fittings**

(19,05 mm)  
9501-075BM  
9501-075BR  
9501-075NF  
9501-075NM  
9501-075S

**1" Fittings**

(25,4 mm)  
9501-100BF  
9501-100BM  
9501-100BR  
9501-100NF  
9501-100NM  
9501-100S

**Accessories**

**7962**

24V AC 50/60 HZ

**7962RW**

24V AC 50/60 HZ  
Reclaimed water solenoid

**9501-100IN**

1" (25,4 mm) Isolation Valve

**9501**



**9501FC**



**7962**



**7962RW**



**SPECIFICATIONS**

**FLOW RANGE:**

Less than 1 to 30 gpm  
(0,23 – 6,81 m<sup>3</sup>/hr)

**MINIMUM PRESSURE:**

10 psi (0,7 bar)

**MAXIMUM PRESSURE:**

150 psi (10,3 bar)

**INPUT:**

24V AC

**INRUSH CURRENT:**

0.50 Amps or less

**HOLDING CURRENT:**

0.23 Amps

**DIMENSIONS (l x w x h)**

4 1/2" (10,8 cm) x 3 7/8" (9,8 cm) x  
5 1/8" (13 cm)

**# PER BOX:**

20

**Reading model #'s:**

**BF= BSP female fitting**

**BM= BSP male fitting**

**BR= Barb fitting**

**NF= NPT female fitting**

**NM= NPT male fitting**

**S= Slip fitting**

**9501-075 SERIES (3/4" (19,05 mm) FITTINGS)**

Flow	Pressure Loss	Flow	Pressure Loss	Flow	Pressure Loss
GPM	PSI	L/min	kPa	m <sup>3</sup> /hr	BAR
1	2.5	3.8	17	0.23	0.17
5	2.7	18.9	18.6	1.14	0.18
10	3.7	37.9	25.5	2.27	0.25
15	4.5	56.8	31	3.41	0.30
20	5.0	75.7	34.5	4.54	0.34

**9501-100 SERIES (1" (25,4 mm) FITTINGS)**

Flow	Pressure Loss	Flow	Pressure Loss	Flow	Pressure Loss
GPM	PSI	L/min	kPa	m <sup>3</sup> /hr	BAR
1	3.0	3.8	20.7	0.23	0.20
5	2.7	18.9	18.6	1.14	0.18
10	2.5	37.9	17.3	2.27	0.17
15	2.5	56.8	17.3	3.41	0.17
20	3.5	75.7	24.0	4.54	0.24
25	4.5	94.6	31.0	5.68	0.31
30	6.5	113.6	44.8	6.81	0.44

**FEATURES**

- Directly compatible with SoloRain® series of battery-operated actuators
- Body and bonnet made of glass reinforced nylon to prevent leaks and breaks
- Manual internal bleed keeps valve box dry
- Bayonet-mounted bonnet with captured diaphragm for quick and easy servicing
- Fabric reinforced diaphragm for increased durability
- Easy-to-use flow control permits manual adjustment of water flow rate (does not apply to model 9501)
- One-piece fully encapsulated glass filled nylon solenoid with a stainless steel plunger
- Plunger is captured with removable retainer for easy cleaning
- High-grade PVC unions located on the inlet and outlet allow maximum versatility of pipe size (3/4" (19,05 mm) and/or 1" (25,4 mm) and numerous combinations. Installation and removal of the valve is a breeze!

## VALVES

### 9502

Heavy duty union valve

#### 1½" Fittings

(38,1 mm)  
9502-150N  
9502-150S  
9502-150B

#### 2" Fittings

(50,8 mm)  
9502-200B  
9502-200N  
9502-200S

### Accessories

#### 7962

24V AC 50/60 HZ

#### 7962RW

24V AC 50/60 HZ  
Reclaimed water solenoid

#### 9502-150IN

1½" isolation valve

#### 9502-200IN

2" isolation valve



## SPECIFICATIONS

### FLOW RANGE:

20-200 gpm (4,54 – 45,40 m<sup>3</sup>/hr)

### MINIMUM PRESSURE:

15 psi (1,03 bar)

### MAXIMUM PRESSURE:

200 psi (13,8 bar)

### INPUT:

24V AC

### INRUSH CURRENT:

0.50 Amps or less

### HOLDING CURRENT:

0.23 Amps

### DIMENSIONS (l x w x h)

7 7/8" (28,3 cm) x 5 1/2" (14 cm) x  
8" (20,3 cm) (globe)

### BODIES WITH FITTINGS INSTALLED:

11 1/8" (20 cm) x 5 1/2" (14 cm) x  
5" (12,7 cm) (globe)

### # PER BOX:

4 (valve bodies)  
16 (fittings)  
4 (isolation valves)

Reading model #'s:  
**N= NPT threading;**  
**S= Slip;**  
**B= BSP threading;**  
**I= Isolation Valve**

## FEATURES

- Directly compatible with SoloRain<sup>®</sup> series of battery-operated actuators
- Manual internal bleed keeps valve box dry
- Flow Control, standard on all valves, allow adjustment of water flow when needed
- Eight stainless steel ½" (12,7 mm) nuts grip into bonnet for extreme and fluctuating climatic conditions
- One-piece fully encapsulated glass filled nylon solenoid with a stainless steel plunger
- Plunger is captured with removable retainer for easy cleaning
- One-piece fabric reinforced diaphragm for increased durability
- Glass-filled nylon body with eight molded in brass studs, a stainless steel metering rod and high-grade PVC bonnet for heavy-duty applications up to 200 psi (13,8 bar)
- High-grade PVC unions located on the inlet and outlet allow maximum versatility of pipe size (1½" (38,1 mm) and/or 2" (50,8 mm) and fitting combinations (slip and/or threaded). Installation and removal of the valve is a breeze!

### PRESSURE LOSS

Flow (GPM)	9500 1½" Globe (PSI)	9500 2" Globe (PSI)	Flow (L/min)	9500 1½" Globe (Kpa)	9500 2" Globe (Kpa)	Flow (m <sup>3</sup> /hr)	9500 1½" Globe (BARS)	9500 2" Globe (BARS)
20	3.0	—	75.7	20.7	—	4.54	.20	—
30	3.5	—	113.5	24.2	—	6.81	.24	—
40	3.7	—	151.4	25.5	—	9.08	.25	—
50	3.9	2.9	189.3	26.9	20.1	11.35	.27	.20
60	4.0	3.0	227.1	27.6	20.7	13.62	.28	.21
80	5.0	3.5	302.8	34.5	24.2	18.16	.34	.24
100	6.0	4.2	378.5	41.4	28.9	22.70	.41	.29
120	8.0	6.5	454.2	55.2	44.9	27.40	.55	.45
140	10.0	8.2	529.9	69.0	56.6	31.78	.69	.56
160	—	11.0	605.6	—	75.9	36.32	—	.75
180	—	11.5	681.3	—	79.3	40.86	—	.79
200	—	16.5	757.0	—	113.8	45.40	—	1.14

**9515NC\*, 9515BC\***

1½" (38,1 mm) Globe or Angle Valve

**9520NC\*, 9520BC\***

2" (50,8 mm) Globe or Angle Valve

\*NC = NPT Conventional

\*BC = BSP Conventional

**Accessories**

**7962**

24V AC 50/60 HZ

**7962RW**

24V AC 50/60 HZ  
Reclaimed water solenoid



**SPECIFICATIONS**

**FLOW RANGE:**

9515: 15-150 gpm (3,40 – 34,07 m³/hr)

9520: 15-200 gpm (3,40 – 45,42 m³/hr)

**MINIMUM PRESSURE:**

15 psi (1,03 bar)

**MAXIMUM PRESSURE:**

200 psi (13,8 bar)

**INPUT:**

24V AC

**INRUSH CURRENT:**

0.50 Amps or less

**HOLDING CURRENT:**

0.23 Amps

**DIMENSIONS (l x w x h)**

6¾" (17,1 cm) x 5½" (14 cm) x 8" (20,3 cm) (9515 with plug)

6¾" (17,1 cm) x 5½" (14 cm) x 8½" (21,6 cm) (9520)

**# PER BOX:**

4

VALVES

**FEATURES**

- Directly compatible with SoloRain® series of battery-operated actuators
- Manual internal bleed is easy to operate – just twist the solenoid
- Flow Control, standard on all valves, allows adjustment of water flow when needed
- One-piece fully encapsulated glass-filled nylon solenoid with a stainless steel plunger. Plunger is captured with removable retainer for easy cleaning
- Manual bleed by rotating solenoid approximately ¾ of a turn counter clockwise
- Eight stainless steel ½" (12,7 mm) nuts grip into bonnet for extreme and fluctuating climatic conditions
- One-piece fabric reinforced diaphragm for increased durability
- 200 psi (13,8 bar) rated valve for heavy-duty applications
- Glass-filled nylon body with eight molded in brass studs, a stainless steel metering rod and high-grade PVC bonnet

**PRESSURE LOSS**

Flow (GPM)	9515NC 1½" Globe	9515NC 1½" Angle	9520NC 2" Globe	9520NC 2" Angle	Flow (m³/hr)	9515BC 1½" Globe	9515BC 1½" Angle	9520BC 2" Globe	9520BC 2" Angle
15	3.0	2.8	–	–	3.40	20.7	19.3	–	–
20	3.0	2.8	–	–	4.54	20.7	19.3	–	–
30	3.5	3.0	–	–	6.81	24.2	20.7	–	–
40	3.7	3.2	–	–	9.08	25.5	22.0	–	–
50	3.9	3.4	2.9	1.9	11.36	26.9	23.5	20.1	13.1
60	4.0	3.7	3.0	2.3	13.63	27.6	25.5	20.7	15.8
80	5.0	4.1	3.5	2.5	18.17	34.5	28.3	24.2	17.2
100	6.0	4.5	4.2	3.1	22.71	41.4	31.1	28.9	21.3
120	8.0	6.0	6.5	3.8	27.25	55.2	41.4	44.9	26.2
140	10.0	7.0	8.2	4.9	31.79	69.0	48.3	56.6	33.8
160	–	–	11.0	5.5	36.34	–	–	75.9	37.9
180	–	–	11.5	6.8	40.80	–	–	79.3	46.9
200	–	–	16.5	8.2	45.42	–	–	113.8	56.5

# QUICK COUPLING VALVES

## Quick Coupling Keys

### 7640

Quick Coupling Key  
3/4" male x 1/2" female

### 7641

Quick Coupling Key  
1" male x 3/4" female

## Quick Coupling Valves 1"

### 7642

Quick Coupling Valve with  
Yellow Non-Locking Cover  
1" NPT (25,4 mm)

### 7642B

Quick Coupling Valve with  
Yellow Non-Locking Cover  
1" BSP (25,4 mm)

### 7643

Quick Coupling Valve with  
Yellow Locking Cover  
1" NPT (25,4 mm)

### 7643B

Quick Coupling Valve with  
Yellow Locking Cover  
1" BSP (25,4 mm)

### 7644

Quick Coupling Valve with  
Lavender Non-Locking Cover  
1" NPT (25,4 mm)

### 7644B

Quick Coupling Valve with  
Lavender Non-Locking Cover  
1" BSP (25,4 mm)

### 7645

Quick Coupling Valve with  
Lavender Locking Cover  
1" NPT (25,4 mm)

### 7645B

Quick Coupling Valve with  
Lavender Locking Cover  
1" BSP (25,4 mm)

### 8649

QCV Locking Cover Key

7640/7641



7645



7643



8810, 8811, 8812



## Quick Coupler Keys Swivel [NPT]

### 8810

3/4" Female NPT x 3/4" Male Hose

### 8811

1" Female NPT x 3/4" Male Hose

### 8812

1" Female NPT x 1" Male Hose



**ACME® threads provide convenient flow control**

## FEATURES

Signature® quick coupling valves and keys use ACME® threads for slow and steady flow control instead of immediate on/off. All models feature rubber cover. Optional locking cover available. Optional lavender rubber cover identifies reclaimed water site – molded in "RECLAIMED WATER - DO NOT DRINK": in English and Spanish. 10 Per Box

VALVES

## QUICK COUPLING KEYS

### ENGLISH

### METRIC

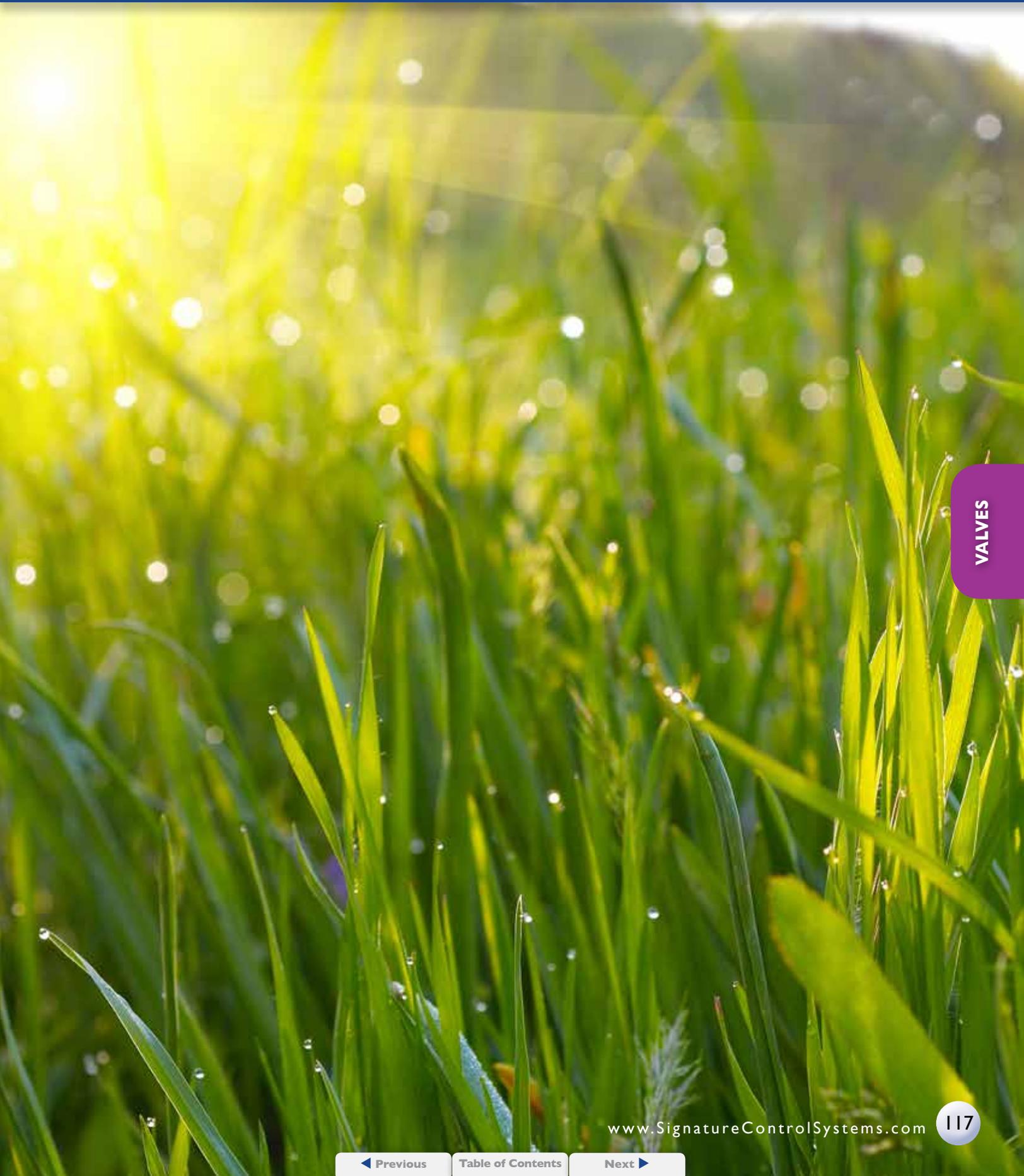
Model	For Valve Models	Thread Size		Height	Thread Size		Height
		MALE	FEMALE		MALE	FEMALE	
7640	All models	3/4"	1/2"	5 1/4"	25,4 mm	19,05 mm	13,3 cm
7641	All models	1"	3/4"	5 1/4"	19,05 mm	12,7 mm	13,3 cm

## QUICK COUPLING VALVES

### ENGLISH

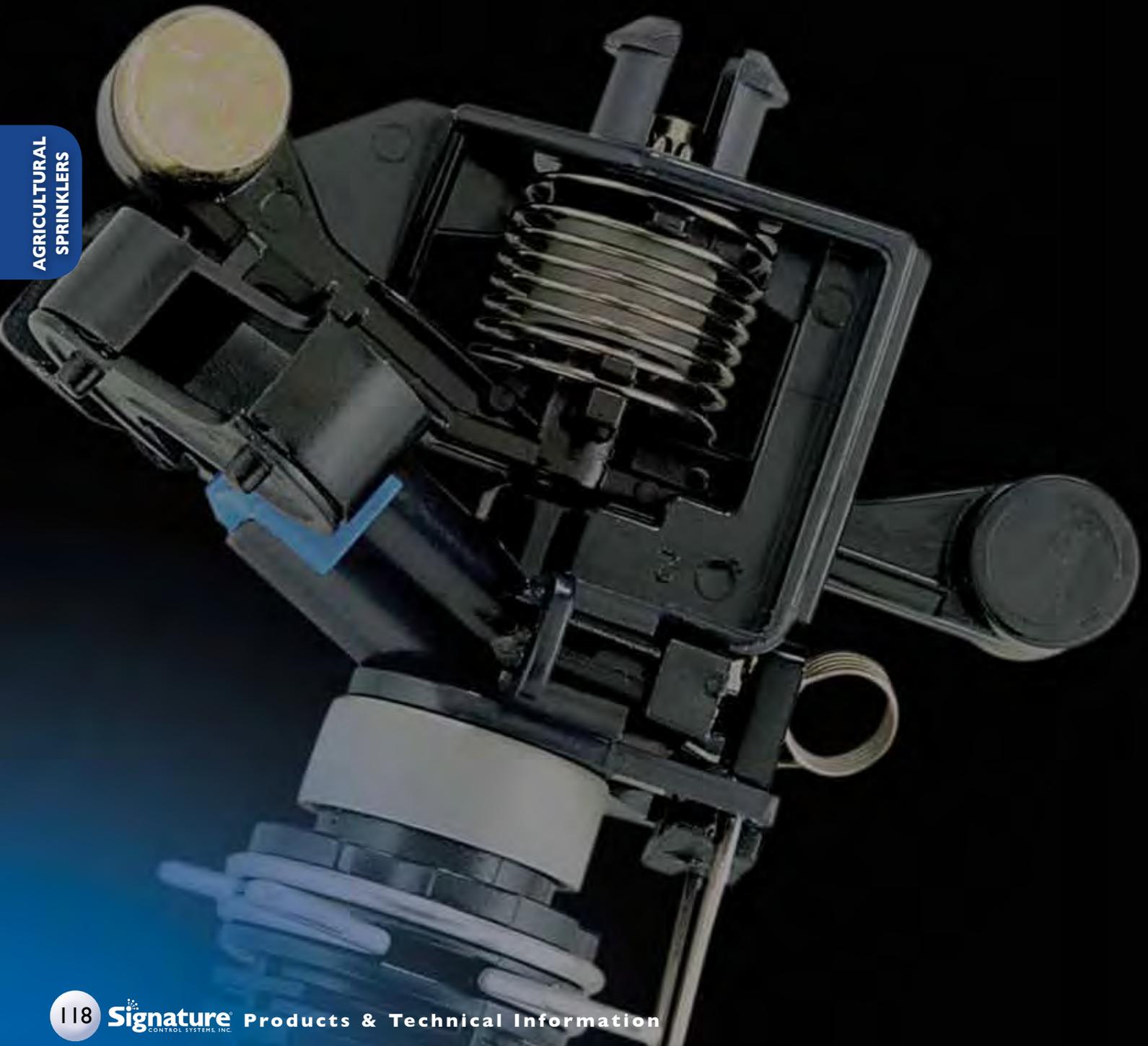
### METRIC

Quick Coupler Model	Rubber Cover	Locking Cover	Warning Cover	Max Capacity GPM	Bottom Pipe Thread	Overall Height	Max Capacity /m	Bottom Pipe Thread	Overall Height
7642 & B	•			20	1"	3 3/4"	75,7	25,4mm	9,5 cm
7643 & B	•	•		20	1"	3 3/4"	75,7	25,4mm	9,5 cm
7644 & B	•		•	20	1"	3 3/4"	75,7	25,4mm	9,5 cm
7645 & B	•	•	•	20	1"	3 3/4"	75,7	25,4mm	9,5 cm



# AGRICULTURAL SPRINKLERS

AGRICULTURAL  
SPRINKLERS



APPLICATIONS	6700	1370	1973
RADIUS 40' (12,2 M)	✓	✓	✓
½" (1,27 CM) INLET			✓
DUAL ½" (1,27 CM) & ¾"(1,9 CM) INLET	✓		
½" (1,27 CM) MALE THREADS		✓	
RESIDENTIAL	✓	✓	
NURSERIES	✓	✓	✓
COMMERCIAL/MUNICIPAL	✓	✓	
HIGH VANDALISM AREAS	✓		
LOW PRESSURE SYSTEMS	✓	✓	✓
RISER MOUNTED		✓	✓
GROUND COVER/SHRUBS	✓	✓	
RECLAIMED WATER	✓	✓	✓
SLOPES	✓	✓	



## PRODUCT OVERVIEW

### 6700



- Includes seven color coded nozzles.
- Combination ½" (1,27 cm) & ¾" (1,9 cm) inlet.
- Adjustable from 20° - 360°.
- Spacing from 23' - 43' (7 m - 13 m) with a flow rate of 1.5 - 6.3 gpm (5,68 - 23, 85 l/min).

AGRICULTURAL  
SPRINKLERS

### 1370



- Perfect for mounting on risers installs.
- Features ½" (1,27 cm) male threads.
- Includes seven nozzles.
- Adjustable from 20° - 360°.
- Spacing from 23' - 43' (7 m - 13 m) with a flow rate of 1.5 - 6.3 gpm (5,68 - 23, 85 l/min).

### 1973



- Ideal for riser installs in planting areas.
- ½" (1,27 cm) female threads.
- 40' (12,2 m) diameter coverage.
- 3.4 - 4.4 gpm (12,8 - 16,6 l/min) flow.





AGRICULTURAL  
SPRINKLERS

# AGRICULTURAL SPRINKLERS

**6700**

Pro Impact

**Accessories**

**6701**

Lavender Cover

**8601**

Wrench

**8820**

Anti Drain Valve (ADV)

**6700**



**6701**



**8601**



**8820**



## SPECIFICATIONS

**OPERATING RANGE:**

25-60 psi

**OPTIMUM PRESSURE:**

40 psi

**MAXIMUM PRESSURE:**

60 psi

**PART-CIRCLE RANGE:**

20° - 340°

**POP-UP HEIGHT:**

3" (7,6 cm)

**BODY HEIGHT:**

9¼" (23,5 cm)

**BOTTOM INLET SIZE:**

½" and ¾" (1,27 cm and 1,9 cm)

**SIDE INLET SIZE:**

½" (1,27 cm)

**TOP DIAMETER:**

5" (12,7 cm)

**# PER BOX:**

20

**NOZZLE COLOR CODES**

<b>Red</b>	<b>6</b>	<b>Beige</b>	<b>12</b>
<b>Black</b>	<b>7</b>	<b>Black</b>	<b>7LA</b>
<b>Blue</b>	<b>8</b>	<b>Yellow</b>	<b>10LA</b>
<b>Yellow</b>	<b>10</b>		

**NOZZLE PERFORMANCE CHARTS FOR 6700 and 1370**

**ENGLISH**

Pressure	Nozzle	Radius	Flow	Precipitation Rate <sup>1</sup>	
				IN/HR■	IN/HR▲
PSI		FT	GPM		
25	6	34	1.5	0.25	0.29
	07 LA	36	2.2	0.33	0.38
	7	37	2.1	0.30	0.34
	8	38	2.4	0.32	0.37
	10 LA	23	3.1	1.13	1.30
	10	33	3	0.53	0.61
	12	32	4	0.75	0.87
35	6	38	1.8	0.24	0.28
	07 LA	37	2.7	0.38	0.44
	7	39	2.4	0.30	0.35
	8	40	2.9	0.35	0.40
	10 LA	25	3.6	1.11	1.28
	10	34	3.6	0.60	0.69
	12	37	5	0.70	0.81
45	6	38	2.1	0.28	0.32
	07 LA	39	3	0.38	0.44
	7	39	2.8	0.35	0.41
	8	40	3.2	0.39	0.44
	10 LA	27	4.2	1.11	1.28
	10	34	4.1	0.68	0.79
	12	39	5.7	0.72	0.83
55	6	38	2.4	0.32	0.37
	07 LA	40	3.4	0.41	0.47
	7	41	3	0.34	0.40
	8	41	3.7	0.42	0.49
	10 LA	27	4.6	1.22	1.40
	10	34	4.6	0.77	0.88
	12	43	6.3	0.66	0.76
60	6	38	2.5	0.33	0.39
	07 LA	41	3.5	0.40	0.46
	7	41	3.2	0.37	0.42
	8	42	3.8	0.41	0.48
	10 LA	29	4.8	1.10	1.27
	10	34	4.8	0.80	0.92
	12	-	-	-	-

**METRIC**

Pressure	Nozzle	Radius	Flow	Precipitation Rate <sup>1</sup>	
				mm/HR■	mm/HR▲
BAR		m	L/min		
1.72	6	10.36	5.68	3.17	3.66
	07 LA	10.97	8.33	4.15	4.79
	7	11.28	7.95	3.75	4.33
	8	11.58	9.08	4.06	4.69
	10 LA	7.01	11.73	14.33	16.54
	10	10.06	11.36	6.73	7.78
	12	9.75	15.14	9.55	11.03
2.41	6	11.58	6.81	3.05	3.52
	07 LA	11.28	10.22	4.82	5.57
	7	11.89	9.08	3.86	4.45
	8	12.19	10.98	4.43	5.12
	10 LA	7.62	13.63	14.08	16.26
	10	10.36	13.63	7.61	8.79
	12	11.28	18.93	8.93	10.31
3.10	6	11.58	7.95	3.56	4.11
	07 LA	11.89	11.36	4.82	5.57
	7	11.89	10.60	4.50	5.20
	8	12.19	12.11	4.89	5.65
	10 LA	8.23	15.90	14.08	16.26
	10	10.36	15.52	8.67	10.01
	12	11.89	21.58	9.16	10.58
3.79	6	11.58	9.08	4.06	4.69
	07 LA	12.19	12.87	5.19	6.00
	7	12.50	11.36	4.36	5.04
	8	12.50	14.01	5.38	6.21
	10 LA	8.23	17.41	15.43	17.81
	10	10.36	17.41	9.73	11.23
	12	13.11	23.85	8.33	9.62
4.14	6	11.58	9.46	4.23	4.89
	07 LA	12.50	13.25	5.09	5.88
	7	12.50	12.11	4.65	5.37
	8	12.80	14.38	5.27	6.08
	10 LA	8.84	18.17	13.95	16.11
	10	10.36	18.17	10.15	11.72
	12	-	-	-	-

<sup>1</sup> Precipitation rates for square and triangular spacing calculated at 50% of diameter for half-circle operation. Assumes zero wind for precipitation and radius. Adjust for local conditions.

## FEATURES

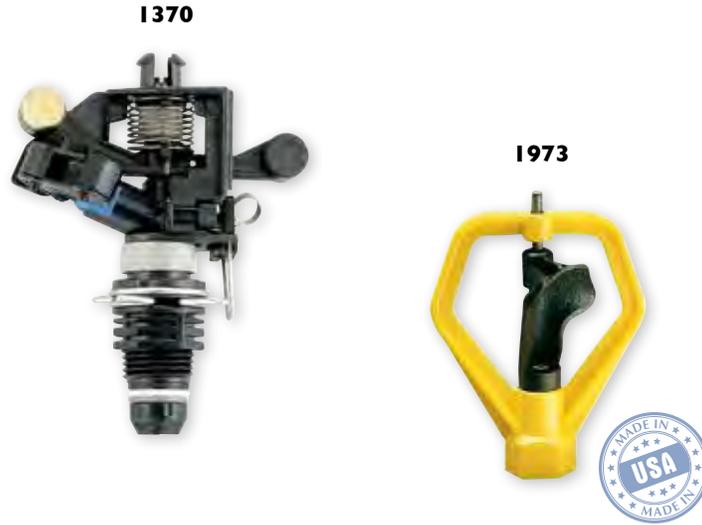
- Includes seven easily interchangeable, color-coded nozzles and 2 low-angle nozzles.
- No tool is required to change nozzles.
- Heavy-duty plastic case with sturdy, reinforced ribbed design.
- Double-weighted arm for slower rotation and increased distance of throw.
- Powerful reverse action.
- Adjustable arm spring for low-pressure and low-gallonage operation.
- Full-circle or adjustable arc 20° to 340°.
- Distance controller diffuser pin.
- Multi-function, pressure-activated wiper seal.
- Inlet filter screen.
- Combination ½" (1,27 cm) or ¾" (1,9 cm) bottom inlet
- Side inlet ½" (1,27 cm)
- Serviceable through the top of the case.

**1370**

Adjustable Beta head with 1/2" (1,27 cm) bearing

**1973**

Whiz Head rotary sprinkler



**ENGLISH**

WHIZ HEAD®	Pressure age (psi)	Flow (gpm)	Cover-Dia. (ft)
	30	3.4	40
	40	3.9	40
	50	4.4	40

**METRIC**

WHIZ HEAD®	Pressure age (bar)	Flow (l/min)	Cover-Dia. (m)
	2	12,8	12,2
	2,7	14,7	12,2
	3,5	16,6	12,2

**FEATURES**

**1370**

Beta impact spray heads provide outstanding performance at an affordable price. Made with high impact plastic, they are durable, keeping maintenance to a minimum.

- Includes five easily interchangeable, seven nozzles and 2 low-angle nozzles.
- No tool is required to change nozzles.
- 1/2" (1,27 cm) male threads
- Non-clog nozzle and straight-through flow design
- Sealed bearing keeps dirt and debris out
- Anti-backsplash arm keeps water off buildings
- Adjust pattern and spray with diffuser pin and exclusive Click-Set® trip collars
- Use 1370's for riser installations
- Diffuser pin maintains set spray pattern adjustment

**1973**

- Ideal for riser installations in planting areas
- 1/2" (1,27 cm) female threaded inlet
- Made of high-impact corrosion resistant plastic
- Stainless steel bearing and large orifice nozzle

# SENSORS

SENSORS



# PRODUCT OVERVIEW

## **RAIN SWITCH 8501**



- Works with all Signature® Controllers.
- Includes 25 ft (7,6 m) of 20 AWG two-conductor wire.
- Maintenance-free patented sensing mechanism.
- Automatically shuts off and starts irrigation based on local parameters.

**SENSORS**

## **SOIL SENSOR ANALOG ACAS1 ACANSC**



- Easily installs on any Galaxy™ or Constellation® satellite.
- Includes 10 ft (3 m) of 20 AWG two-conductor wire.
- Maintenance-free patented sensing mechanism.
- Automatically shuts off and starts irrigation based on local parameters.
- Tough polycarbonate construction for direct burial
- 4-20 mA Sensing board required (sold separately).

## **SOIL SENSOR NETWORK ACNS1 ACNS2 ACNS3 ACNS4 ACNS5 ACNS6 ACNS7**



- Easily installs on any Galaxy™ or Constellation® or Aurora® satellite (Firmware v6.00+).
- Includes 10 ft (3 m) of 20 AWG two-conductor wire.
- Maintenance-free patented sensing mechanism.
- Automatically shuts off and starts irrigation based on local parameters.
- Tough polycarbonate construction for direct burial.
- Variety of sensing programming parameters

## SENSORS

### Rain Switch

**8501**  
Rain-Trip®

#### FEATURES

- Unit ready for bracket mount or ½" (12,7 mm) conduit/pipe thread mount at bottom
- Adjusts easily from 1/8" (3,2 mm) to 1" (25,4 mm) rainfall
- Wired for Normally Closed but can be converted to Normally Open
- Supplied with 25 (7,6 m) ft of hookup wire
- Saves unneeded watering
- Designed to be used with low voltage irrigation systems only

#### SPECIFICATIONS



### Soil Sensor:- Analog

**ACASI**  
Soil Moisture Sensor  
Analog Output

**ACANSC**  
Sensor Card  
(required for 4-20mA  
linear sensors)

(not shown)



#### FEATURES

- Provides linear measure of soil moisture content
- Works on any Constellation® or Aurora® firmware

## Soil Sensor:- Network

### ACNS1

Soil Moisture Sensor

### ACNS2

Soil EC (Electrical Conductivity) Sensor

### ACNS3

Soil Temperature Sensor

### ACNS4

Soil Wetted Front Sensor

### ACNS5

Soil Moisture, Soil EC

### ACNS6

Soil Moisture, EC, Temperature

### ACNS7

Soil Moisture, EC, Temp & Wetted Front Sensor



## FEATURES

- Can broadcast up to four outputs (soil moisture, EC, soil temperature and wetted front) across the network and trigger any program on any controller in the network to either start or stop based on adjustable targets set in a program for any of the four sensor outputs
- The firmware allows for the selection of any one output or a combination of the four outputs in one sensor
- The firmware can be upgraded from the controller without having to dig up the sensor
- Each controller can have a maximum of 2 1,000 ft runs of 18 AWG 4 conductor / 2 pair wire connecting up to 15 sensors
- Up to 999 controllers and/or sensors on one network
- The PRO-Sense design makes it easy to install with little or no soil or root disruption

### Note:

*Constellation® or Aurora® Firmware v6.00 or higher required*

# HOSE END



APPLICATIONS	HOT SHOT™	COOL SHOT™	FAN SHOT™	WETTING AGENT™	THE GUZZLER™	HOSE HEAD™
TURF GRASS	✓	✓	✓	✓	✓	✓
ORNAMENTALS	✓	✓	✓	✓	✓	✓
GROUND COVER	✓	✓	✓	✓	✓	✓
RESIDENTIAL	✓	✓	✓	✓	✓	✓
RECLAIMED WATER	✓	✓	✓	✓	✓	✓
COMMERCIAL/MUNICIPAL	✓	✓	✓	✓	✓	✓

HOSE END



## PRODUCT OVERVIEW

### HOT SHOT™



- Available in both ¾" and 1" hose thread sizes
- The multi-pattern nozzle is great for jet cleaning equipment to soaking delicate plant material
- Heavy duty aluminum construction
- Lavender nozzles available for non-potable water applications

### COOL SHOT™



- Available in both ¾" and 1" hose thread sizes
- Provides heavy shower for soaking or heavy irrigating
- Cool Shot Plus includes regulator with on – off control
- Heavy duty aluminum or plastic version available
- Lavender nozzles available for non-potable water applications

### FAN SHOT™



- Available in both ¾" and 1" hose thread sizes
- Fan Shot Plus includes regulator with on – off control
- Economical High impact plastic construction
- Multiple nozzles available for various pressures

## Wetting Agent Applicator



- Perfect for applying wetting agents or fertilizers
- Available in both ¾" and 1" hose thread sizes
- Can be installed at the beginning or end of your hose
- Available with the Cool Shot nozzle
- Economical High impact plastic construction

HOSE END

## HOSE HEAD™



- Turns many sprinkler heads into a hose bib with a 360° swivel
- Includes both ¾" and 1" hose thread fittings
- Adapts from Hunter G60, G70 & G90
- Adapts from Rain Bird Eagle 700 & 900 series
- Adapts from Toro 630, 680, 750, 780, 850, & 880 series
- Adapts from Signature® D50 & D70 series
- Adapts from Signature® 280 Series

# HOSE END

## **DNO75HSM**

HotShot™ Multi-Pattern Hose Nozzle  
¾" Hose Thread

## **DNO75HSMP**

HotShot™ Multi-Pattern Hose Nozzle  
¾" Hose Thread (Lavender)

## **DN100HSM**

HotShot™ Multi-Pattern Hose Nozzle  
1" Hose Thread

## **DN100HSMP**

HotShot™ Multi-Pattern Nozzle  
1" Hose Thread (Lavender)

## **DNO75CS**

CoolShot™ Shower-Pattern Hose Nozzle  
¾" Hose Thread

## **DNO75CSL**

CoolShot™ Shower-Pattern Hose Nozzle  
¾" Hose Thread (Lavender)

## **DN100CS**

CoolShot™ Shower-Pattern Hose Nozzle  
1" Hose Thread

## **DN100CSL**

CoolShot™ Shower-Pattern Hose Nozzle  
1" Hose Thread (Lavender)

## **DNO75CSP**

CoolShot™ Plus Shower-Pattern Hose Nozzle  
¾" Hose Thread

## **DNO75CSPL**

CoolShot™ Plus Shower-Pattern Hose Nozzle  
¾" Hose Thread (Lavender)

## **DN100CSP**

CoolShot™ Plus Shower-Pattern Hose Nozzle  
1" Hose Thread

## **DN100CSPL**

CoolShot™ Plus Shower-Pattern Hose Nozzle  
1" Hose Thread (Lavender)

## **DNO75CSPE**

CoolShot™ Plus Economy Shower-Pattern  
Hose Nozzle, ¾" Hose Thread

## **DN100CSPE**

CoolShot™ Plus Economy Shower-Pattern  
Hose Nozzle, 1" Hose Thread (Lavender)



## HOT SHOT™ FEATURES

### Hot Shot™ with Regulator

#### Multi Pattern Nozzle

If you could only have one nozzle, this would be it. This heavy duty Hot Shot™ sprays hot spots, jet cleans equipment and soaks even the most delicate plant material. The Hot Shot™ is available with a lavender nozzle for use in non-potable applications. The hot shot is available in both ¾" and 1" hose threads.



## COOL SHOT™ FEATURES

### Cool Shot™ and Cool Shot™ Plus

#### Shower Head Nozzles

The Cool Shot™ families of nozzles are available in three varieties, the standard Cool Shot™, the Cool Shot™ Plus, and the Cool Shot™ Plus Economy. The Cool Shot's™ shower pattern is perfect for soaking or heavy watering of all types of plant material. The Cool Shot™ Plus with regulator includes on – off flow control and the Cool Shot™ Plus Economy gives you all the same great features while taking advantage of the cost saving plastic construction. All Cool Shot™ nozzles are available in both ¾" and 1" sizes. All Cool Shot™ nozzles can be ordered with the lavender non-potable water nozzles preinstalled.



### **DN075FS10**

FanShot™ Nozzle, 10 GPM  
Yellow Nozzle, ¾" Hose Thread

### **DN075FS20**

FanShot™ Nozzle, 20 GPM  
Red Nozzle, ¾" Hose Thread

### **DN075FS30**

FanShot™ Nozzle, 30 GPM  
Blue Nozzle, ¾" Hose Thread

### **DN100FS10**

FanShot™ Nozzle, 10 GPM  
Yellow Nozzle, 1" Hose Thread

### **DN100FS20**

FanShot™ Nozzle, 20 GPM  
Red Nozzle, 1" Hose Thread

### **DN100FS30**

FanShot™ Nozzle, 30 GPM  
Blue Nozzle, 1" Hose Thread

### **DN100FSP10**

FanShot™ Plus with 10 GPM  
Yellow Nozzle, 1" Hose Thread

### **DN100FSP20**

FanShot™ Plus with 20 GPM  
Red Nozzle, 1" Hose Thread

### **DN100FSP30**

FanShot™ Plus with 30 GPM  
Blue Nozzle, 1" Hose Thread



**Wetting Agent Applicator**



**Hose Head™**



### **Fan Shot™ and Fan Shot™ Plus**

The Fan Shot is a slotted fan spray nozzle designed for various flows both with and without regulators. The Fan Shot is available in ¾" and 1" models. All of the color coded nozzles can be purchased on regulated or non-regulated bodies, individually or in a combo kit. Blue = 30 gpm, Red = 20 gpm, Yellow = 10 gpm.

### **Wetting Agent Applicator**

Apply your costly wetting agents or fertilizers evenly and efficiently. This on-off, variable flow control unit connects easily to the beginning or end of your ¾" and 1" hose. It's also available with a factory installed Cool Shot Nozzle.

### **Hose Head All-In-One Hose Adapter & Swivel**

The Hose Head adaptor is a quick and easy way to convert a standard Rotor into a 360° swiveling hose bib. The Hose Head adapter will allow you to connect a standard 1" or ¾" hose to many Rain Bird, Hunter, Toro and John Deere rotors. Simply remove the internal assembly, install the Hose Head and you're set. Each Hose head comes with both ¾" and 1" fittings. The Hose Head will work with: Rain Bird Eagle 700 900 series, Hunter G60 G70 G90 G800 series, Toro 630 650 660 680 730 750 760 780 830 850 860 880 series, Signature® D50 D55 D70 D75 series and Signature® 280 series.

### **D100HA**

Valve-in-Head Hose Adapter & Swivel for 286/287 Series & Toro 650, 680, 750, 780, 850, 880

### **D150HA**

Valve-in-Head Hose Adapter & Swivel for 288/289 Series & Toro 650, 680, 750, 780, 850, 880

### **D70HHA**

Valve-in-Head Hose Adapter & Swivel for Hunter G60/70 Series

### **D90HHA**

Valve-in-Head Hose Adapter & Swivel for Hunter G90 Series

### **D800HHA**

Valve-in-Head Hose Adapter & Swivel for Hunter G800 Series

### **D700RHA**

Valve-in-Head Hose Adapter & Swivel for Eagle 700/750 Series

### **D900RHA**

Valve-in-Head Hose Adapter & Swivel for Eagle 900/950 Series

### **D075APL**

Wetting Agent Applicator  
¾" Hose inlet — ¾" outlet

### **D100APL**

Wetting Agent Applicator  
1" Hose inlet — 1" outlet

### **D075APLCS**

Wetting Agent Applicator  
¾" Hose inlet — ¾" outlet with CoolShot™ Nozzle

### **D100APLCS**

Wetting Agent Applicator  
1" Hose inlet — 1" outlet with CoolShot™ Nozzle

### **SN100G**

The Guzzler™ High Suction Hand Pump



# TECHNICAL



# FRICTION LOSS CHARACTERISTICS

## PVC CLASS 125 IPS PLASTIC PIPE

(1120, 1220) SDR 32.5 C = 150  
PSI LOSS PER 100 FEET OF PIPE (PSI/100 FT)

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:

$$h_f = 0.2083 \left( \frac{100}{C} \right)^{1.852} \frac{Q^{1.852}}{d^{4.866}}$$

SIZE	Sizes 1" thru 6"															
	1"		1 1/4"		1 1/2"		2"		2 1/2"		3"		4"		6"	
OD	1.315	1.660	1.900	2.375	2.875	3.500	4.500	6.625	1.211	1.548	1.784	2.229	2.699	3.284	4.224	6.217
WALL THK	0.052	0.056	0.058	0.073	0.088	0.108	0.138	0.204								
Flow G.P.M.	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss
1	0.27	0.02	0.17	0.01	0.12	0.00										
2	0.55	0.06	0.34	0.02	0.25	0.01	0.16	0.00								
3	0.83	0.13	0.51	0.04	0.38	0.02	0.24	0.01								
4	1.11	0.22	0.68	0.07	0.51	0.03	0.32	0.01	0.22	0.00						
5	1.39	0.33	0.85	0.10	0.64	0.05	0.41	0.02	0.28	0.01						
6	1.66	0.46	1.02	0.14	0.76	0.07	0.49	0.02	0.33	0.01						
7	1.94	0.62	1.19	0.19	0.89	0.09	0.57	0.03	0.39	0.01	0.26	0.00				
8	2.22	0.79	1.36	0.24	1.02	0.12	0.65	0.04	0.44	0.02	0.30	0.01				
9	2.50	0.98	1.53	0.30	1.15	0.15	0.73	0.05	0.50	0.02	0.34	0.01				
10	2.78	1.19	1.70	0.36	1.28	0.18	0.82	0.06	0.56	0.02	0.37	0.01				
11	3.06	1.42	1.87	0.43	1.41	0.22	0.90	0.07	0.61	0.03	0.41	0.01				
12	3.33	1.67	2.04	0.51	1.53	0.25	0.98	0.09	0.67	0.03	0.45	0.01	0.27	0.00		
14	3.89	2.22	2.38	0.67	1.79	0.34	1.14	0.11	0.78	0.05	0.52	0.02	0.32	0.01		
16	4.45	2.85	2.72	0.86	2.05	0.43	1.31	0.15	0.89	0.06	0.60	0.02	0.36	0.01		
18	5.00	3.54	3.06	1.07	2.30	0.54	1.47	0.18	1.00	0.07	0.68	0.03	0.41	0.01		
20	5.56	4.31	3.40	1.30	2.56	0.65	1.64	0.22	1.12	0.09	0.75	0.03	0.45	0.01		
22	6.12	5.14	3.74	1.56	2.82	0.78	1.80	0.26	1.23	0.10	0.83	0.04	0.50	0.01		
24	6.67	6.04	4.08	1.83	3.07	0.92	1.97	0.31	1.34	0.12	0.90	0.05	0.54	0.01		
26	7.23	7.00	4.42	2.12	3.33	1.06	2.13	0.36	1.45	0.14	0.98	0.05	0.59	0.02		
28	7.78	8.03	4.76	2.43	3.58	1.22	2.29	0.41	1.56	0.16	1.05	0.06	0.64	0.02		
30	8.34	9.13	5.10	2.76	3.84	1.39	2.46	0.47	1.68	0.18	1.13	0.07	0.68	0.02		
35	9.73	12.14	5.95	3.68	4.48	1.84	2.87	0.62	1.96	0.25	1.32	0.09	0.80	0.03	0.36	0.00
40	11.12	15.55	6.81	4.71	5.12	2.36	3.28	0.80	2.24	0.31	1.51	0.12	0.91	0.04	0.42	0.01
45	12.51	19.34	7.66	5.86	5.76	2.94	3.69	0.99	2.52	0.39	1.70	0.15	1.02	0.04	0.47	0.01
50	13.91	23.50	8.51	7.12	6.40	3.57	4.10	1.21	2.80	0.48	1.89	0.18	1.14	0.05	0.52	0.01
55	15.30	28.04	9.36	8.49	7.05	4.26	4.51	1.44	3.08	0.57	2.08	0.22	1.25	0.06	0.58	0.01
60	16.69	32.94	10.21	9.98	7.69	5.00	4.92	1.69	3.36	0.67	2.26	0.26	1.37	0.08	0.63	0.01
65	18.08	38.21	11.06	11.57	8.33	5.80	5.33	1.96	3.64	0.77	2.45	0.30	1.48	0.09	0.68	0.01
70	19.47	43.83	11.91	13.27	8.97	6.55	5.74	2.25	3.92	0.89	2.64	0.34	1.60	0.10	0.73	0.02
75			12.76	15.08	9.61	7.56	6.15	2.56	4.20	1.01	2.83	0.39	1.71	0.11	0.79	0.02
80			13.62	17.00	10.25	8.52	6.56	2.88	4.48	1.14	3.02	0.44	1.82	0.13	0.84	0.02
85			14.47	19.02	10.89	9.53	6.98	3.23	4.76	1.27	3.21	0.49	1.94	0.14	0.89	0.02
90			15.32	21.14	11.53	10.60	7.39	3.59	5.04	1.41	3.40	0.54	2.05	0.16	0.95	0.02
95			16.17	23.37	12.17	11.71	7.80	3.96	5.32	1.56	3.59	0.60	2.17	0.18	1.00	0.03
100			17.02	25.69	12.81	12.88	8.21	4.36	5.60	1.72	3.78	0.66	2.28	0.19	1.05	0.03
110			18.72	30.65	14.10	15.37	9.03	5.20	6.16	2.05	4.16	0.79	2.51	0.23	1.16	0.04
120					15.38	18.06	9.85	6.11	6.72	2.41	4.53	0.93	2.74	0.27	1.26	0.04
130					16.66	20.94	10.67	7.09	7.28	2.79	4.91	1.08	2.97	0.32	1.37	0.05
140					17.94	24.04	11.49	8.13	7.84	3.20	5.29	1.23	3.20	0.36	1.47	0.06
150					19.22	27.30	12.31	9.24	8.40	3.64	5.67	1.40	3.43	0.41	1.58	0.06
160							13.13	10.41	8.96	4.10	6.05	1.58	3.65	0.46	1.68	0.07
170							13.96	11.65	9.52	4.59	6.43	1.77	3.88	0.52	1.79	0.08
180							14.78	12.95	10.08	5.10	6.80	1.96	4.11	0.58	1.90	0.09
190							15.60	14.31	10.64	5.64	7.18	2.17	4.34	0.64	2.00	0.10
200							16.42	15.74	11.20	6.20	7.56	2.39	4.57	0.70	2.11	0.11
225							18.47	19.57	12.60	7.72	8.51	2.97	5.14	0.87	2.37	0.13
250									14.00	9.38	9.45	3.61	5.71	1.06	2.63	0.16
275									15.40	11.19	10.40	4.31	6.28	1.27	2.90	0.19
300									16.80	13.15	11.34	5.06	6.86	1.49	3.16	0.23
325									18.20	15.25	12.29	5.87	7.43	1.72	3.43	0.26
350									19.60	17.49	13.24	6.73	8.00	1.98	3.69	0.30
375											14.18	7.65	8.57	2.25	3.95	0.34
400											15.13	8.62	9.14	2.53	4.22	0.39
425											16.07	9.65	9.71	2.83	4.48	0.43
450											17.02	10.72	10.29	3.15	4.75	0.48
475											17.96	11.85	10.86	3.48	5.01	0.53
500											18.91	13.03	11.43	3.83	5.27	0.58
550													12.57	4.57	5.80	0.70
600													13.72	5.37	6.33	0.82

Note: Shaded areas of chart indicate velocities over 5' per second. Use with Caution.

## PVC CLASS 160 IPS PLASTIC PIPE

(1120, 1220) SDR 26 C = 150  
PSI LOSS PER 100 FEET OF PIPE (PSI/100 FT)

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:  

$$h_f = 0.2083 \left(\frac{100}{C}\right)^{1.852} \frac{Q^{1.852}}{d^{4.866}}$$

SIZE	Sizes 1" thru 6"															
	Flow GPM 1 thru 600															
OD	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"								
ID	1.315	1.660	1.900	2.375	2.875	3.500	4.500	6.625								
WALL THK	0.052	0.056	0.058	0.073	0.088	0.108	0.138	0.204								
Flow G.P.M.	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss
1	0.28	0.02	0.17	0.01	0.13	0.00										
2	0.57	0.06	0.34	0.02	0.26	0.01	0.16	0.00								
3	0.85	0.14	0.52	0.04	0.39	0.02	0.25	0.01								
4	1.14	0.23	0.69	0.07	0.53	0.04	0.33	0.01	0.23	0.00						
5	1.42	0.35	0.86	0.11	0.66	0.05	0.42	0.02	0.28	0.01						
6	1.71	0.49	1.04	0.15	0.79	0.08	0.50	0.03	0.34	0.01	0.23	0.00				
7	1.99	0.66	1.21	0.20	0.92	0.10	0.59	0.03	0.40	0.01	0.27	0.01				
8	2.28	0.84	1.39	0.25	1.06	0.13	0.67	0.04	0.46	0.02	0.31	0.01				
9	2.57	1.05	1.56	0.31	1.19	0.16	0.76	0.05	0.52	0.02	0.35	0.01				
10	2.85	1.27	1.73	0.38	1.32	0.20	0.84	0.07	0.57	0.03	0.39	0.01				
11	3.14	1.52	1.91	0.45	1.45	0.23	0.93	0.08	0.63	0.03	0.43	0.01				
12	3.42	1.78	2.08	0.53	1.59	0.28	1.01	0.09	0.69	0.04	0.46	0.01	0.28	0.00		
14	3.99	2.37	2.43	0.71	1.85	0.37	1.18	0.12	0.81	0.05	0.54	0.02	0.33	0.01		
16	4.57	3.04	2.78	0.91	2.12	0.47	1.35	0.16	0.92	0.06	0.62	0.02	0.37	0.01		
18	5.14	3.78	3.12	1.13	2.38	0.58	1.52	0.20	1.04	0.08	0.70	0.03	0.42	0.01		
20	5.71	4.59	3.47	1.37	2.65	0.71	1.69	0.24	1.15	0.09	0.78	0.04	0.47	0.01		
22	6.28	5.48	3.82	1.64	2.91	0.85	1.86	0.29	1.27	0.11	0.86	0.04	0.52	0.01		
24	6.85	6.44	4.17	1.92	3.18	1.00	2.03	0.34	1.38	0.13	0.93	0.05	0.56	0.02		
26	7.42	7.47	4.51	2.23	3.44	1.15	2.20	0.39	1.50	0.15	1.01	0.06	0.61	0.02		
28	7.99	8.57	4.86	2.56	3.71	1.32	2.37	0.45	1.62	0.18	1.09	0.07	0.66	0.02		
30	8.57	9.74	5.21	2.91	3.97	1.50	2.54	0.51	1.73	0.20	1.17	0.08	0.70	0.02		
35	9.99	12.95	6.08	3.87	4.64	2.00	2.96	0.68	2.02	0.27	1.36	0.10	0.82	0.03	0.38	0.00
40	11.42	16.59	6.95	4.95	5.30	2.56	3.39	0.86	2.31	0.34	1.56	0.13	0.94	0.04	0.43	0.01
45	12.85	20.63	7.82	6.16	5.96	3.19	3.81	1.08	2.60	0.42	1.75	0.16	1.06	0.05	0.49	0.01
50	14.28	25.07	8.69	7.49	6.63	3.88	4.24	1.31	2.89	0.52	1.95	0.20	1.18	0.06	0.54	0.01
55	15.71	29.91	9.56	8.93	7.29	4.62	4.66	1.56	3.18	0.62	2.15	0.24	1.30	0.07	0.60	0.01
60	17.14	35.14	10.43	10.49	7.95	5.43	5.09	1.83	3.47	0.72	2.34	0.28	1.41	0.08	0.65	0.01
65	18.57	40.76	11.29	12.17	8.62	6.30	5.51	2.12	3.76	0.84	2.54	0.32	1.53	0.09	0.70	0.01
70	19.99	46.76	12.16	13.96	9.28	7.23	5.93	2.44	4.05	0.96	2.73	0.37	1.65	0.11	0.76	0.02
75			13.03	15.86	9.94	8.21	6.36	2.77	4.34	1.09	2.93	0.42	1.77	0.12	0.81	0.02
80			13.90	17.88	10.60	9.25	6.78	3.12	4.63	1.23	3.12	0.47	1.89	0.14	0.87	0.02
85			14.77	20.00	11.27	10.35	7.21	3.49	4.91	1.38	3.32	0.53	2.00	0.16	0.92	0.02
90			15.64	22.23	11.93	11.51	7.63	3.88	5.20	1.53	3.51	0.59	2.12	0.17	0.98	0.03
95			16.51	24.58	12.59	12.72	8.05	4.29	5.49	1.69	3.71	0.65	2.24	0.19	1.03	0.03
100			17.38	27.03	13.26	13.99	8.48	4.72	5.78	1.86	3.91	0.72	2.36	0.21	1.09	0.03
110			19.12	32.24	14.58	16.69	9.33	5.63	6.36	2.22	4.30	0.86	2.60	0.25	1.20	0.04
120					15.91	19.61	10.18	6.61	6.94	2.61	4.69	1.01	2.83	0.30	1.30	0.05
130					17.24	22.74	11.02	7.67	7.52	3.03	5.08	1.17	3.07	0.34	1.41	0.05
140					18.56	26.09	11.87	8.80	8.10	3.47	5.47	1.34	3.31	0.39	1.52	0.06
150					19.89	29.64	12.72	10.00	8.68	3.94	5.86	1.52	3.54	0.45	1.63	0.07
160							13.57	11.27	9.26	4.45	6.25	1.71	3.78	0.50	1.74	0.08
170							14.42	12.61	9.83	4.97	6.64	1.92	4.01	0.56	1.85	0.09
180							15.27	14.02	10.41	5.53	7.03	2.13	4.25	0.63	1.96	0.10
190							16.11	15.49	10.99	6.11	7.43	2.35	4.49	0.69	2.07	0.11
200							16.96	17.03	11.57	6.72	7.82	2.59	4.72	0.76	2.18	0.12
225							19.08	21.19	13.02	8.36	8.79	3.22	5.31	0.95	2.45	0.14
250									14.47	10.16	9.77	3.91	5.91	1.15	2.72	0.18
275									15.91	12.12	10.75	4.67	6.50	1.37	3.00	0.21
300									17.36	14.24	11.73	5.49	7.09	1.61	3.27	0.25
325									18.81	16.51	12.70	6.36	7.68	1.87	3.54	0.29
350											13.68	7.30	8.27	2.15	3.81	0.33
375											14.66	8.29	8.86	2.44	4.09	0.37
400											15.64	9.35	9.45	2.75	4.36	0.42
425											16.62	10.46	10.04	3.07	4.63	0.47
450											17.59	11.62	10.63	3.42	4.90	0.52
475											18.57	12.85	11.23	3.78	5.18	0.58
500											19.55	14.13	11.82	4.15	5.45	0.63
550													13.00	4.96	6.00	0.76
600													14.18	5.82	6.54	0.89

Note: Shaded areas of chart indicate velocities over 5' per second. Use with Caution.

# FRICTION LOSS CHARACTERISTICS

## PVC CLASS 200 IPS PLASTIC PIPE

(1120, 1220) SDR 21 C = 150  
PSI LOSS PER 100 FEET OF PIPE (PSI/100 FT)

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:

$$h_f = 0.2083 \left( \frac{100}{C} \right)^{1.852} \frac{Q^{1.852}}{d^{4.866}}$$

SIZE	Sizes 3/4" thru 6"															
	Flow GPM 1 thru 600															
OD	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"							
ID	.930	1.211	1.548	1.784	2.229	2.699	3.284	4.224	6.217							
WALL THK	.060	0.052	0.056	0.058	0.073	0.088	0.108	0.138	0.204							
Flow G.P.M.	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss
1	0.47	0.06	0.28	0.02	0.18	0.01	0.13	0.00								
2	0.94	0.22	0.57	0.07	0.36	0.02	0.27	0.01	0.17	0.00						
3	1.42	0.46	0.86	0.14	0.54	0.04	0.41	0.02	0.26	0.01						
4	1.89	0.79	1.15	0.24	0.72	0.08	0.55	0.04	0.35	0.01	0.18	0.00				
5	2.36	1.20	1.44	0.36	0.90	0.12	0.68	0.06	0.44	0.02	0.24	0.01				
6	2.83	1.68	1.73	0.51	1.08	0.16	0.82	0.08	0.53	0.03	0.36	0.01	0.24	0.00		
7	3.30	2.23	2.02	0.67	1.26	0.22	0.96	0.11	0.61	0.04	0.42	0.01	0.28	0.01		
8	3.77	2.85	2.30	0.86	1.44	0.28	1.10	0.14	0.70	0.05	0.48	0.02	0.32	0.01		
9	4.25	3.55	2.59	1.07	1.62	0.34	1.24	0.18	0.79	0.06	0.54	0.02	0.36	0.01		
10	4.72	4.31	2.88	1.30	1.80	0.42	1.37	0.22	0.88	0.07	0.60	0.03	0.40	0.01		
11	5.19	5.15	3.17	1.56	1.98	0.50	1.51	0.26	0.97	0.09	0.66	0.03	0.44	0.01		
12	5.66	6.05	3.46	1.83	2.17	0.59	1.65	0.30	1.06	0.10	0.72	0.04	0.48	0.02	0.29	0.00
14	6.60	8.05	4.04	2.43	2.53	0.78	1.93	0.40	1.23	0.14	0.84	0.05	0.56	0.02	0.34	0.01
16	7.55	10.30	4.61	3.11	2.89	1.00	2.20	0.52	1.41	0.17	0.96	0.07	0.65	0.03	0.39	0.01
18	8.49	12.81	5.19	3.87	3.25	1.24	2.48	0.64	1.59	0.22	1.08	0.09	0.73	0.03	0.44	0.01
20	9.43	15.58	5.77	4.71	3.61	1.51	2.75	0.78	1.76	0.26	1.20	0.10	0.81	0.04	0.49	0.01
22	10.38	18.58	6.34	5.62	3.97	1.80	3.03	0.93	1.94	0.32	1.32	0.12	0.89	0.05	0.54	0.01
24	11.32	21.83	6.92	6.60	4.34	2.12	3.30	1.09	2.12	0.37	1.44	0.15	0.97	0.06	0.59	0.02
26	12.27	25.32	7.50	7.65	4.70	2.46	3.58	1.27	2.29	0.43	1.56	0.17	1.05	0.07	0.63	0.02
28	13.21	29.04	8.08	8.78	5.06	2.82	3.86	1.46	2.47	0.49	1.68	0.19	1.13	0.07	0.68	0.02
30	14.15	33.00	8.65	9.98	5.42	3.20	4.13	1.66	2.65	0.56	1.80	0.22	1.22	0.09	0.73	0.02
35	16.51	43.91	10.10	13.27	6.32	4.26	4.82	2.20	3.09	0.75	2.11	0.29	1.42	0.11	0.86	0.03
40	18.87	56.23	11.54	17.00	7.23	5.45	5.51	2.82	3.53	0.95	2.41	0.38	1.62	0.14	0.98	0.04
45			12.98	21.14	8.13	6.78	6.20	3.51	3.97	1.19	2.71	0.47	1.83	0.18	1.10	0.05
50			14.42	25.70	9.04	8.24	6.89	4.26	4.41	1.44	3.01	0.57	2.03	0.22	1.23	0.06
55			15.87	30.66	9.94	9.83	7.58	5.09	4.85	1.72	3.31	0.68	2.23	0.26	1.35	0.08
60			17.31	36.02	10.85	11.55	8.27	5.97	5.30	2.02	3.61	0.80	2.44	0.31	1.47	0.09
65			18.75	41.77	11.75	13.40	8.96	6.93	5.74	2.35	3.92	0.93	2.64	0.36	1.59	0.10
70					12.65	15.37	9.65	7.95	6.18	2.69	4.22	1.06	2.84	0.41	1.72	0.12
75					13.56	17.47	10.34	9.03	6.62	3.06	4.52	1.21	3.05	0.46	1.84	0.14
80					14.46	19.68	11.03	10.18	7.06	3.44	4.82	1.36	3.25	0.52	1.96	0.15
85					15.37	22.02	11.72	11.39	7.50	3.85	5.12	1.52	3.45	0.59	2.09	0.17
90					16.27	24.48	12.41	12.66	7.95	4.28	5.42	1.69	3.66	0.65	2.21	0.19
95					17.18	27.06	13.10	13.99	8.39	4.74	5.72	1.87	3.86	0.72	2.33	0.21
100					18.08	29.76	13.79	15.39	8.83	5.21	6.03	2.06	4.07	0.79	2.46	0.23
110					19.89	35.50	15.17	18.36	9.71	6.21	6.63	2.45	4.47	0.94	2.70	0.28
120							16.54	21.57	10.60	7.30	7.23	2.88	4.88	1.11	2.95	0.33
130							17.92	25.02	11.48	8.47	7.84	3.34	5.29	1.29	3.19	0.38
140							19.30	28.70	12.36	9.71	8.44	3.84	5.69	1.47	3.44	0.43
150									13.25	11.04	9.04	4.36	6.10	1.68	3.69	0.49
160									14.13	12.44	9.64	4.91	6.51	1.89	3.93	0.55
170									15.01	13.91	10.25	5.50	6.91	2.11	4.18	0.62
180									15.90	15.47	10.85	6.11	7.32	2.35	4.42	0.69
190									16.78	17.10	11.45	6.75	7.73	2.60	4.67	0.76
200									17.66	18.80	12.06	7.43	8.14	2.85	4.92	0.84
225									19.87	23.38	13.56	9.24	9.15	3.55	5.53	1.04
250											15.07	11.23	10.17	4.31	6.15	1.27
275											16.58	13.39	11.19	5.15	6.76	1.51
300											18.09	15.74	12.21	6.05	7.38	1.78
325											19.60	18.25	13.22	7.01	7.99	2.06
350													14.24	8.05	8.61	2.36
375													15.26	9.14	9.22	2.69
400													16.28	10.30	9.84	3.03
425													17.29	11.53	10.45	3.39
450													18.31	12.81	11.07	3.77
475													19.33	14.16	11.68	4.16
500															12.30	4.58
550															13.53	5.46
600															14.76	6.42

Note: Shaded areas of chart indicate velocities over 5' per second. Use with Caution.

## PVC CLASS 315 IPS PLASTIC PIPE

(1120, 1220) SDR 13.5 C = 150  
PSI LOSS PER 100 FEET OF PIPE (PSI/100 FT)

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:  

$$h_f = 0.2083 \left( \frac{100}{C} \right)^{1.852} \frac{Q^{1.852}}{d^{4.866}}$$

SIZE	Sizes 1/2' thru 6'																			
	1/2'		3/4"		1"		1 1/4"		1 1/2'		2"		2 1/2'		3"		4"		6"	
OD	0.840		1.050		1.315		1.660		1.900		2.375		2.875		3.500		4.500		6.625	
ID	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 G.P.M.																				
Velocity F.P.S.																				
P.S.I. Loss																				
Velocity F.P.S.																				
P.S.I. Loss																				
Velocity F.P.S.																				
P.S.I. Loss																				
Velocity F.P.S.																				
P.S.I. Loss																				
Velocity F.P.S.																				
P.S.I. Loss																				
1	0.79	0.22	0.51	0.07	0.32	0.02	0.20	0.01	0.15	0.00										
2	1.59	0.78	1.02	0.27	0.64	0.09	0.40	0.03	0.31	0.01	0.19	0.00								
3	2.38	1.65	1.53	0.56	0.97	0.19	0.61	0.06	0.46	0.03	0.29	0.01								
4	3.18	2.82	2.04	0.96	1.29	0.32	0.81	0.10	0.62	0.05	0.39	0.02	0.27	0.01						
5	3.97	4.26	2.55	1.45	1.62	0.48	1.02	0.16	0.77	0.08	0.49	0.03	0.34	0.01	0.22	0.00				
6	4.77	5.97	3.06	2.03	1.94	0.67	1.22	0.22	0.93	0.11	0.59	0.04	0.40	0.02	0.27	0.01				
7	5.57	7.95	3.57	2.70	2.27	0.90	1.42	0.29	1.09	0.15	0.69	0.05	0.47	0.02	0.32	0.01				
8	6.36	10.18	4.08	3.45	2.59	1.15	1.63	0.37	1.24	0.19	0.79	0.06	0.54	0.03	0.36	0.01				
9	7.16	12.66	4.59	4.30	2.92	1.43	1.83	0.46	1.40	0.24	0.89	0.08	0.61	0.03	0.41	0.01				
10	7.95	15.38	5.10	5.22	3.24	1.74	2.04	0.56	1.55	0.29	0.99	0.10	0.68	0.04	0.45	0.01	0.27	0.00		
11	8.75	18.35	5.61	6.23	3.57	2.07	2.24	0.67	1.71	0.35	1.09	0.12	0.74	0.05	0.50	0.02	0.30	0.01		
12	9.55	21.56	6.12	7.32	3.89	2.43	2.44	0.79	1.87	0.41	1.19	0.14	0.81	0.05	0.55	0.02	0.33	0.01		
14	11.14	28.69	7.14	9.74	4.54	3.24	2.85	1.05	2.18	0.54	1.39	0.18	0.95	0.07	0.64	0.03	0.38	0.01		
16	12.73	36.74	8.16	12.47	5.19	4.15	3.26	1.34	2.49	0.70	1.59	0.23	1.08	0.09	0.73	0.04	0.44	0.01		
18	14.32	45.69	9.18	15.51	5.84	5.16	3.67	1.67	2.80	0.87	1.79	0.29	1.22	0.12	0.82	0.04	0.49	0.01		
20	15.91	55.54	10.20	18.86	6.49	6.27	4.08	2.03	3.11	1.05	1.99	0.35	1.36	0.14	0.91	0.05	0.55	0.02		
22	17.50	66.26	11.23	22.50	7.14	7.48	4.48	2.42	3.42	1.25	2.19	0.42	1.49	0.17	1.00	0.06	0.61	0.02		
24	19.10	77.84	12.25	26.43	7.79	8.79	4.89	2.84	3.74	1.47	2.39	0.50	1.63	0.20	1.10	0.08	0.66	0.02		
26			13.27	30.65	8.44	10.19	5.30	3.29	4.05	1.71	2.59	0.58	1.76	0.23	1.19	0.09	0.72	0.03		
28			14.29	35.16	9.09	11.69	5.71	3.78	4.36	1.96	2.79	0.66	1.90	0.26	1.28	0.10	0.77	0.03	0.35	0.00
30			15.31	39.95	9.74	13.29	6.12	4.29	4.67	2.23	2.99	0.75	2.04	0.30	1.37	0.11	0.83	0.03	0.38	0.01
35			17.86	53.15	11.36	17.68	7.14	5.71	5.45	2.96	3.48	1.00	2.38	0.39	1.60	0.15	0.97	0.04	0.44	0.01
40					12.98	22.64	8.16	7.31	6.23	3.80	3.98	1.28	2.72	0.51	1.83	0.19	1.11	0.06	0.51	0.01
45					14.61	28.15	9.18	9.10	7.01	4.72	4.48	1.59	3.06	0.63	2.06	0.24	1.24	0.07	0.57	0.01
50					16.23	34.22	10.20	11.06	7.79	5.74	4.98	1.94	3.40	0.76	2.29	0.29	1.38	0.09	0.64	0.01
55					17.85	40.83	11.22	13.19	8.57	6.85	5.48	2.31	3.74	0.91	2.52	0.35	1.52	0.10	0.70	0.02
60					19.48	47.97	12.24	15.50	9.35	8.04	5.98	2.71	4.08	1.07	2.75	0.41	1.66	0.12	0.76	0.02
65							13.26	17.97	10.13	9.33	6.48	3.15	4.42	1.24	2.98	0.48	1.80	0.14	0.83	0.02
70							14.28	20.62	10.90	10.70	6.97	3.61	4.76	1.42	3.21	0.55	1.94	0.16	0.89	0.02
75							15.30	23.43	11.68	12.16	7.47	4.10	5.10	1.62	3.44	0.62	2.08	0.18	0.96	0.03
80							16.32	26.40	12.46	13.71	7.97	4.62	5.44	1.82	3.67	0.70	2.22	0.21	1.02	0.03
85							17.34	29.54	13.24	15.33	8.47	5.17	5.78	2.04	3.89	0.78	2.35	0.23	1.08	0.04
90							18.36	32.84	14.02	17.05	8.97	5.75	6.12	2.27	4.12	0.87	2.49	0.26	1.15	0.04
95							19.38	36.30	14.80	18.84	9.47	6.35	6.46	2.51	4.35	0.96	2.63	0.28	1.21	0.04
100									15.58	20.72	9.96	6.99	6.80	2.76	4.58	1.06	2.77	0.31	1.28	0.05
110									17.14	24.72	10.96	8.34	7.48	3.29	5.04	1.26	3.05	0.37	1.40	0.06
120									18.70	29.04	11.96	9.79	8.16	3.87	5.50	1.48	3.33	0.44	1.53	0.07
130											12.96	11.36	8.84	4.48	5.96	1.72	3.60	0.51	1.66	0.08
140											13.95	13.03	9.52	5.14	6.42	1.97	3.88	0.58	1.79	0.09
150											14.95	14.81	10.20	5.84	6.88	2.24	4.16	0.66	1.92	0.10
160											15.95	16.69	10.88	6.59	7.34	2.53	4.44	0.74	2.04	0.11
170											16.94	18.67	11.56	7.37	7.79	2.83	4.71	0.83	2.17	0.13
180											17.94	20.75	12.24	8.19	8.25	3.14	4.99	0.93	2.30	0.14
190											18.94	22.94	12.92	9.05	8.71	3.47	5.27	1.02	2.43	0.16
200											19.93	25.23	13.60	9.95	9.17	3.82	5.55	1.12	2.56	0.17
225													15.30	12.38	10.32	4.75	6.24	1.40	2.88	0.21
250													17.00	15.05	11.47	5.77	6.93	1.70	3.20	0.26
275													18.70	17.95	12.61	6.89	7.63	2.03	3.52	0.31
300														13.76	8.09	8.32	3.38	3.84	0.36	
325														14.91	9.39	9.02	2.76	4.16	0.42	
350														16.05	10.77	9.71	3.17	4.48	0.48	
375														17.20	12.23	10.40	3.60	4.80	0.55	
400														18.35	13.79	11.10	4.06	5.12	0.62	
425														19.49	15.42	11.79	4.54	5.44	0.69	
450															12.49	5.05	5.76	0.77		
475															13.18	5.58	6.08	0.85		
500															13.87	6.14	6.40	0.94		
550															15.26	7.32	7.04	1.12		
600															16.65	8.60	7.68	1.31		

Note: Shaded areas of chart indicate velocities over 5' per second. Use with Caution.

# FRICTION LOSS CHARACTERISTICS

## POLYETHYLENE (PE) SDR-PRESSURE RATED TUBE

(2306, 3206, 3306) SDR 7, 9, 11.5, 15 C = 140  
 PSI LOSS PER 100 FEET OF TUBE (PSI/100 FT)

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:

$$h_f = 0.2083 \left( \frac{100}{C} \right)^{1.852} \frac{Q^{1.852}}{d^{4.866}}$$

SIZE	1/2"		3/4"		1"		1 1/4"		1 1/2"		2"		2 1/2"		3"		4"		6"	
	ID	0.622	0.824	1.049	1.380	1.610	2.067	2.469	3.068	4.026	6.065	Sizes 1/2" thru 6" Flow GPM 1 thru 600								
Flow G.P.M.	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss										
1	1.05	0.49	0.60	0.12	0.37	0.04	0.21	0.01	0.15	0.00	0.09	0.00								
2	2.10	1.76	1.20	0.45	0.74	0.14	0.42	0.04	0.31	0.02	0.19	0.01								
3	3.16	3.73	1.80	0.95	1.11	0.29	0.64	0.08	0.47	0.04	0.28	0.01	0.20	0.00						
4	4.21	6.35	2.40	1.62	1.48	0.50	0.85	0.13	0.62	0.06	0.38	0.02	0.26	0.01						
5	5.27	9.60	3.00	2.44	1.85	0.76	1.07	0.20	0.78	0.09	0.47	0.03	0.33	0.01	0.21	0.00				
6	6.32	13.46	3.60	3.43	2.22	1.06	1.28	0.28	0.94	0.13	0.57	0.04	0.40	0.02	0.26	0.01				
7	7.38	17.91	4.20	4.56	2.59	1.41	1.49	0.37	1.10	0.18	0.66	0.05	0.46	0.02	0.30	0.01				
8	8.43	22.93	4.80	5.84	2.96	1.80	1.71	0.47	1.25	0.22	0.76	0.07	0.53	0.03	0.34	0.01				
9	9.49	28.52	5.40	7.26	3.33	2.24	1.92	0.59	1.41	0.28	0.85	0.08	0.60	0.03	0.39	0.01				
10	10.54	34.67	6.00	8.82	3.70	2.73	2.14	0.72	1.57	0.34	0.95	0.10	0.66	0.04	0.43	0.01				
11	11.60	41.36	6.60	10.53	4.07	3.25	2.35	0.86	1.73	0.40	1.05	0.12	0.73	0.05	0.47	0.02	0.27	0.00		
12	12.65	48.60	7.21	12.37	4.44	3.82	2.57	1.01	1.88	0.48	1.14	0.14	0.80	0.06	0.52	0.02	0.30	0.01		
14	14.76	64.65	8.41	16.46	5.19	5.08	2.99	1.34	2.20	0.63	1.33	0.19	0.93	0.08	0.60	0.03	0.35	0.01		
16	16.87	82.79	9.61	21.07	5.93	6.51	3.42	1.71	2.51	0.81	1.52	0.24	1.07	0.10	0.69	0.04	0.40	0.01		
18	18.98	102.97	10.81	26.21	6.67	8.10	3.85	2.13	2.83	1.01	1.71	0.30	1.20	0.13	0.78	0.04	0.45	0.01		
20			12.01	31.86	7.41	9.84	4.28	2.59	3.14	1.22	1.90	0.36	1.33	0.15	0.86	0.05	0.50	0.01		
22			13.21	38.01	8.15	11.74	4.71	3.09	3.46	1.46	2.10	0.43	1.47	0.18	0.95	0.06	0.55	0.02		
24			14.42	44.65	8.89	13.79	5.14	3.63	3.77	1.72	2.29	0.51	1.60	0.21	1.04	0.07	0.60	0.02		
26			15.62	41.79	9.64	16.00	5.57	4.21	4.09	1.99	2.48	0.59	1.74	0.25	1.12	0.09	0.65	0.02		
28			16.82	59.41	10.38	18.35	5.99	4.83	4.40	2.28	2.67	0.68	1.87	0.29	1.21	0.10	0.70	0.03		
30			18.02	67.50	11.12	20.85	6.42	5.49	4.72	2.59	2.86	0.77	2.00	0.32	1.30	0.11	0.75	0.03	0.33	0.00
35					12.97	27.74	7.49	7.31	5.50	3.45	3.34	1.02	2.34	0.43	1.51	0.15	0.88	0.04	0.38	0.01
40					14.83	35.53	8.56	9.36	6.29	4.42	3.81	1.31	2.67	0.55	1.73	0.19	1.00	0.05	0.44	0.01
45					16.68	44.19	9.64	11.64	7.08	5.50	4.29	1.63	3.01	0.69	1.95	0.24	1.13	0.06	0.49	0.01
50					18.53	53.71	10.71	14.14	7.87	6.68	4.77	1.98	3.34	0.83	2.16	0.29	1.25	0.08	0.55	0.01
55							11.78	16.87	8.65	7.97	5.25	2.36	3.68	1.00	2.38	0.35	1.38	0.09	0.61	0.01
60							12.85	19.82	9.44	9.36	5.72	2.78	4.01	1.17	2.60	0.41	1.51	0.11	0.66	0.01
65							13.92	22.99	10.23	10.86	6.20	3.22	4.35	1.36	2.81	0.47	1.63	0.13	0.72	0.02
70							14.99	26.37	11.01	12.46	6.68	3.69	4.68	1.56	3.03	0.54	1.76	0.14	0.77	0.02
75							16.06	29.97	11.80	14.16	7.16	4.20	5.01	1.77	3.25	0.61	1.88	0.16	0.83	0.02
80							17.13	33.77	12.59	15.95	7.63	4.73	5.35	1.99	3.46	0.69	2.01	0.18	0.88	0.03
85							18.21	37.79	13.37	17.85	8.11	5.29	5.68	2.23	3.68	0.77	2.13	0.21	0.94	0.03
90							19.28	42.01	14.16	19.84	8.59	5.88	6.02	2.48	3.90	0.86	2.26	0.23	0.99	0.03
95									14.95	21.93	9.07	6.50	6.35	2.74	4.11	0.95	2.39	0.25	1.05	0.03
100									15.74	24.12	9.54	7.15	6.69	3.01	4.33	1.05	2.51	0.28	1.10	0.04
110									17.31	28.77	10.50	8.53	7.36	3.59	4.76	1.25	2.76	0.33	1.22	0.05
120									18.88	33.80	11.45	10.02	8.03	4.22	5.20	1.47	3.02	0.39	1.33	0.05
130											12.41	11.62	8.70	4.90	5.63	1.70	3.27	0.45	1.44	0.06
140											13.36	13.33	9.37	5.62	6.06	1.95	3.52	0.52	1.55	0.07
150											14.32	15.15	10.03	6.38	6.50	2.22	3.77	0.59	1.66	0.08
160											15.27	17.08	10.70	7.19	6.93	2.50	4.02	0.67	1.77	0.09
170											16.23	19.11	11.37	8.05	7.36	2.80	4.27	0.75	1.88	0.10
180											17.18	21.24	12.04	8.95	7.08	3.11	4.53	0.83	1.99	0.11
190											18.14	23.48	12.71	9.89	8.23	3.44	4.78	0.92	2.10	0.12
200											19.09	25.81	13.38	10.87	8.66	3.78	5.03	1.01	2.21	0.14
225													15.05	13.52	9.75	4.70	5.66	1.25	2.49	0.17
250													16.73	16.44	10.83	5.71	6.29	1.52	2.77	0.21
275													18.40	19.61	11.92	6.82	6.92	1.82	3.05	0.25
300															13.00	8.01	7.55	2.13	3.32	0.29
325															14.08	9.29	8.18	2.48	3.60	0.34
350															15.17	10.65	8.81	2.84	3.88	0.39
375															16.25	12.10	9.43	3.23	4.15	0.44
400															17.33	13.64	10.06	3.64	4.43	0.50
425															18.42	15.26	10.69	4.07	4.71	0.55
450															19.50	16.97	11.32	4.52	4.99	0.62
475																	11.95	5.00	5.26	0.68
500																	12.58	5.50	5.54	0.75
550																	13.84	6.56	6.10	1.89
600																	15.10	7.70	6.65	1.05

Note: Shaded areas of chart indicate velocities over 5' per second. Use with Caution.

## PIPE FITTINGS

Expressed as Equivalent Footage of Pipe

Steel Fitting Type	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6	8
Coupling	.6	.8	1.0	1.2	1.5	2.0	2.5	3.0	4.0	6.0	8.0
Run of St. Tee	1	1	1.5	2	2	2.5	3	4	5	7	10
Tee, Side Outlet	3	4.5	5	7	9	11	13	16	20	31	42
Tee, Run Reduced 1/2"	1.5	2.5	3	4	5	6	7	8	12	16	20
Elbow, 90°	1.5	2.5	3	4	5	6	7	8	12	16	20
Elbow, 45°	.75	1	1.3	1.7	2	2.5	3	3.5	5	7.5	10
Corporation Stop	9	9	9	9	9	9					
Curb Stop	6	6	7	7	8	8					
<b>Plastic IPS or Copper Fitting Type</b>											
Coupling	1.5	2.5	3	3	4	6	7	8	11	18	24
Run of St. Tee	2.5	3	4	5	6	8	9	11	15	21	28
Tee, Side Outlet	7	9	12	15	18	24	30	36	45	70	90
Tee, Run Reduced 1/2"	3.5	4.5	6	8	9	11	14	17	24	35	45
Elbow, 90°	3.5	4.5	6	8	9	11	14	17	24	34	45
Elbow, 45°	1.5	2	3	3.5	4	5	7	8	10	16	20

The maximum PR values listed below are as suggested by the United States Department of Agriculture. The values are average and may vary with respect to actual soil condition and condition of ground cover.

Maximum Precipitation Rates: Inches Per Hour								
Soil Texture	0 to 5% slope		5 to 8% slope		8 to 12% slope		12% + slope	
	Cover	Bare	Cover	Bare	Cover	Bare	Cover	Bare
Course sandy soils	2.00	2.00	2.00	1.50	1.50	1.0	1.0	0.50
Course sandy soils overcompact subsoils	1.75	1.50	1.25	1.00	1.00	0.75	0.75	0.40
Light sandy loams uniform	1.75	1.00	1.25	0.80	1.00	0.60	0.75	0.40
Light sandy loams over compact subsoils	1.25	0.75	1.00	0.50	0.75	0.40	0.50	0.30
Uniform silt loams	1.00	0.50	0.80	0.40	0.60	0.30	0.40	0.20
Silt loams over compact subsoil	0.60	0.30	0.50	0.25	0.40	0.15	0.30	0.10
Heavy clay or clay loam	0.20	0.15	0.15	0.10	0.12	0.08	0.10	0.06

# FRICITION LOSS CHARACTERISTICS

## WATER METERS

AWWA STANDARD PRESSURE LOSS: (PSI)

Flow G.P.M.	Nominal Size						
	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	0.7		
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	1.0	
65				8.3	3.2	1.1	
70				9.8	3.7	1.3	
75				11.3	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



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