TORO

GOLF IRRIGATION CATALOG 2015

A CENTURY OF INNOVATION

> The strength of any institution rests solely in the good will of the people with whom they deal. You can replace anything except the good will of your customers.
>
> ~John Samuel Clapper, Co-Founder and First President

> The success of this company is no secret. It has been due to two simple things: building a good product, and treating customers honestly and fairly. The only way to success is by the fair and honest treatment of customers.
>
> ~Kenneth E. Goit, Toro's Third President

Since July 10, 1914, a long line of ingenious Toro inventors have developed dramatic breakthroughs that helped establish and strengthen the Company's leadership role and revolutionize the industries in which we compete.

As we enter our second century, the people of Toro will continue to lead with our relentless drive to innovate. At Toro, innovation is more than a slogan; it is our lifeblood, our legacy, our commitment to all the customers we are honored to serve.

By celebrating our past, we reveal our future. Yesterday, today and tomorrow, The Toro Company's fundamental commitment to building long-term customer relationships based on integrity and trust, transcends time.

Our high-quality products and legacy of trusting relationships has combined to make Toro the leading global supplier of innovative turf maintenance equipment and precision irrigation solutions to the golf market. Our products are used to maintain a vast number of public, private, municipal, and resort golf courses-including many of the world's top golf venues.

Our purpose is to help our customers enrich the beauty, productivity and sustainability of the land. This is our legacy, our purpose, our commitment to both the customers we serve and the generations to come.

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More information & demo video on
www.toro.com/lynx

BETTER INFORMATION FOR **BETTER DECISIONS**

The Toro® Lynx® Central Control System was developed specifically to help you address the unique challenges and changing priorities you face every day. With Lynx, you can now have all of your essential irrigation information readily available in one place, conveniently combined into a single, intuitive interface.

Easy to Set Up

Lynx® was developed for quick setup – it gives you a fast, accurate way to setup your system to put water exactly where you want it, and then allows you to make edits as your course conditions change.

Easy to Use

Lynx® has a distinct user interface that combines all essential data and intuitively presents the information you need (alerts, scheduled watering and more) at a glance. It's easy to access all the information you need with one click through your Favorites Menu.

Easy to Control

Lynx® empowers you to take quick, accurate action to effectively control and manage your golf course by providing past, present and future course information from multiple sources into a single, intuitive interface.

National Support Network (NSN®)

Toro's exclusive National Support Network provides software and network assistance from experienced service professionals who understand what you need. NSN Connect™ allows easy remote access to your irrigation system.

Superior course map editing and creation

The advanced functionality of the Lynx® Central Control System enables you to **edit your course map easily, or create your own fully interactive map** using a digital image of your course. Setting up your map is simple, and Lynx® lets you **program and control your irrigation activities right from the map**, with instant access to operation feedback from the rest of your irrigation system.

Integration with other system components

Lynx® offers integration with other turf management components, giving you access to all of the information needed to support your irrigation management. Lynx can be seamlessly integrated with field hardware, weather stations, electrical systems, smartphones and much more, including the Toro® Turf Guard® Wireless Soil Monitoring System.

Comprehensive reporting increases your productivity

Armed with the thorough reports provided by Lynx, you'll be able to **immediately address any irrigation concerns and avoid potential course damage** . . . or just move on to other tasks when Lynx lets you know that things are running as planned.

- A comprehensive Course Report function supports your scheduled irrigation by providing system status information, even on manual watering activities.
- Lynx® auto-generates reports after each night's watering, so you can quickly confirm all sprinkler runtimes at a glance.

More information on
www.toro.com/golf

TORO FIELD CONTROL SYSTEMS

Toro is the World's leading golf irrigation company and provides an array of field control options

Sturdy Plastic Pedestals
Available in Sand, Tree Bark or Green.

Satellite Control

Satellite systems use controllers placed on each hole to operate a specified number of stations.

- Future upgrades can be accomplished with advanced satellite firmware, keeping you current with technology.
- Satellite upgrade kits enable older Toro satellite units to be upgraded very cost effectively vs. a complete system change-out.
- Custom pedestal colors enable satellites to blend into the natural surroundings.
- Hardwire, 2-way radio and paging communication options allows for easy installation and maintenance.

Advanced 2-Wire Control

Intelligent 2-wire modules can be installed inside the sprinklers or off-fairway.

- Continuous two-way communication
- Real time diagnostics and voltage tests
- Best-in-class broadband lightning protection
- Vandal and flood resistant
- Allows for system expansion by tapping into the cable
- Toro INFINITY® and FLEX800™ Series sprinkler models have an integrated 2-wire module option

While others have followed in our footsteps, Toro is the industry leader in advanced 2-wire systems.

The Lynx® Central Control System offers integration with Toro's Field Control Systems, enabling you to have the complete information needed to support your irrigation decisions.

Lynx® for GDC

More information & demo video on
www.toroinfinity.com

INFINITY® SERIES GOLF SPRINKLERS

Engineered for Today's Challenges. Designed for Tomorrow's Technologies.

The new INFINITY® Series improves your course quality with less workload and most important, it keeps players playing. Calculate the money you'll save by cutting sprinkler maintenance from hours to minutes.

Smart Access®

Provides top accessibility to all critical components.

- No digging or unsightly turf repair scars
- Pilot valve removable with water "ON"
- GDC 2-wire module accessible from the top
- Customizable marker
- No buried wire splices or ground faults
- Replaceable cover if damaged
- Increased labor efficiency
- Lower long term cost of ownership

Future Proof

The SMART ACCESS® compartment provides room to grow. Whatever the future holds, this sprinkler will be ready.

Protective Enclosure

The protective enclosure isolates wire splices from the soil and potential shorts to ground. Provides access for system troubleshooting and repairs without digging!

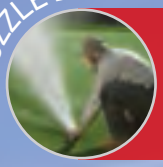
FLEX800™ SERIES GOLF SPRINKLERS

Golf sprinklers with all the efficiency and proven performance features and benefits of the 800S and DT Series

TRAJECTORY ADJUSTMENT

24-position TruJectory™ or Dual trajectory to help fight the wind, avoid obstacles or to or to reduce the radius.

NOZZLE BASE CLUTCHING

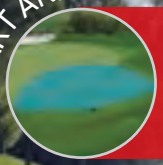


Hot spot watering has never been easier, simply turn, hold and shoot to put down as much water as needed.

LARGE NOZZLE SELECTION

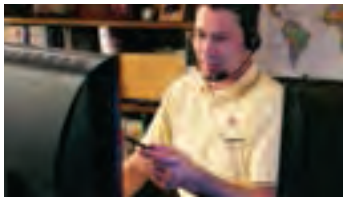
From 20' to 100' we've got you covered! Only Toro provides the flexibility to optimize your system for maximum uniformity.

PART AND FULL CIRCLE MODELS



Align part circle sprinklers quickly and easily or adjust watering locations to suit seasonal needs.

TORO SUPPORT



Toro Technical Support

Our technical support team is highly skilled at what they do. From helping superintendents, program controllers, to troubleshooting complex system issues with consultants, the support team provides years of irrigation experience that you can count on. For exceptional technical support, call **1-877-345-TORO (3626)**.

Toro Controller Repair

Did you know that with Toro's Board Exchange Program you can get the replacement controller boards you need immediately? Through your distributor, Controller Repair provides controller boards ready for immediate board exchange to assure that controller downtime is minimal and your golf course and reputation stays protected.
For immediate assistance call: **1-877-345-TORO (3626)**.
Visit Controller Repair website at **www.toro.com/controller-repair**

Toro Distributor Support

Our distributors have been our partners for an average of 40 years (10 to 88 years) and we consider them an extension of us.

Toro Field Service

With some of the most knowledgeable and helpful field service staff in the industry, and our extensive training and support programs; Toro field service personnel are always there to assist—before, during, and well after a sale.

Toro Genuine Parts

From the smallest sprinkler part to complete control systems, Toro Service Parts support can deliver most replacement parts to our distributors within hours. In fact, Toro offers its customers the highest parts order completion rate in the industry: 98%!

Toro Financing

By offering a variety of customized, competitive financing plans, Toro gives you "one-stop shopping" eliminating the need for third-party funding. You can improve your course without draining your budget.

Toro National Support Network (NSN®)

A team of A+ certified technicians and licensed irrigators dedicated to the daily operations and maintenance of computerized central control systems for customers worldwide. (see page 17 for more information)

CONTROL SYSTEM AND FIELD CONTROLLERS

Lynx® Central Control System
Pages 12-13

Turf Guard®
Pages 14-15

Field Controller Comparison Charts

Feature/Capability	Network VP®	E-OSMAC®	OSMAC® RDR	GDC
Catalog Pages	**18-19**	**20-21**	**20-21**	**22-23**
Maximum Station Per Controller	64	64	48	1600
Maximum Simultaneously Operating Stations Per Controller	32	16	16	200
Stand-alone Programs	64	24*	24*	10**
Wireline Field Communication	Yes	No	No	Yes
Wireless Field Communication	Yes	Yes	Yes	Yes***
Upload Field Changes	Yes	No	No	No
Field Controller Alerts	Yes	No	No	Yes
Downloaded Programs	Yes	No	No	Yes***
Station Based Flow Management	Yes	Yes	Yes	Yes
Station Current Sensing	Yes	No	No	No
Station Runtimes In Seconds	Yes	Yes	Yes	No

** Requires Smart OSMAC*
*** GDC 200 Stand-alone Gateway*
**** GDC Remote*

LYNX® CENTRAL CONTROL SYSTEM

The Toro® Lynx® Control System was developed specifically to help you address the unique challenges and changing priorities you face every day. With the Lynx System, you can now have all of your essential irrigation information readily available in one place, conveniently combined into a single, intuitive interface.

FEATURES & BENEFITS

Lynx 3.1 Adds More Flexibility and More Control

Station Percent Adjust for duration allows you to set temporary adjustments that automatically returns to normal after a set number of days. The new Sequential Instant Program allows you to pick the order stations water automatically. GDC system diagnostics can now be selected by Hole or Area to make pin pointing a problem even easier, and you can now chose to have Lynx automatically upload station changes into the Watering Plan.

Simplified Decision Making with Dynamic Drilldown

Guides you to where you need to go. Follow the water drop in the Watering Plan to find stations, holes or entire areas that are disabled, on hold or otherwise not programmed to irrigate. Quickly find any stations in Course Report that did not operate as intended.

Flexible and Editable Map

Easily add, drag, drop and assign sprinklers, satellites, sensors and switches to their exact locations. You can effortlessly make edits as your field hardware changes. Fully supports CAD-generated maps.

Power Guard Helps Prevent Wasted Energy

Integration with a Flowtronex® pump station with PACE™ enables the exclusive Lynx Power Guard feature to track and control electricity usage of the system.

Integrated Turf Guard® Soil Sensor Information
Helps you determine when to irrigate and how much which helps you save water.

Lynx Mobile
Enables remote access and control from any mobile device connected to the Internet. Screens are specifically designed and optimized for smaller devices.

SPECIFICATIONS – Lynx® Levels Comparison

SYSTEM CAPACITY	Lynx CE	Lynx PE	Lynx SE
Satellites	500	500	500
Satellites Stations	32,000	1344	512
GDC Stations	6400	1000	500
Weather Stations	10	10	10
Pump Stations	10	3	2
Courses	3	2	1
Holes	84	56	28
Hydraulic Branches	1024	300	100
HARDWARE SUPPORTED			
OSMAC®	Yes	Yes	Yes
Network GDC	Yes	Yes	Yes
Network VP®	Yes	No	No
PROGRAMMING			
VP Current Sensing	Yes	No	No
VP Station Adjust Upload	Yes	No	No
Site Code Categories	7	3	No
Precip. Mgmt. Groups (PMG)	Yes	Yes	No
Max. Stations/Hole Control	Yes	Yes	No
Instant Program Creation	Yes	Yes	Yes
Program Priority	Yes	Yes	No
Pump Profiling	Yes	No	No
Station Group Multi-Manual	Yes	No	No
Master Group Multi-Manual	Yes	No	No
Pump Integration	Yes	Yes	Optional
Weather Station Alarms	Yes	Yes	Optional
ET Auto Calc. RT Method	Yes	Yes	Optional

ADDITIONAL FEATURES

Runtimes:

- Runtimes are executed to the second rather than rounding to the whole minute, resulting in more precise irrigation and water savings (Network VP® & OSMAC® only)
- Control your irrigation by setting runtime minutes or application inches and let the system calculate the other. See exactly how much water you will apply and how long you will irrigate each area
- Runtime synchronization with Network VP satellites prevents irrigation outages if the central goes offline
- Integrated runtime display shows past and planned irrigation activity so you can easily determine what action to take

Quick Start:

- With Quick Start, you create station, hardware and area associations, and control the definition of greens, tees, fairways and sprinklers based on the their locations
- A basic hydraulic tree is auto-generated for you during Quick Start

Views and Reports:

- Course Report provides both real time and daily summaries of both scheduled and manual watering events
- Area and Hole orientation allows you to control your irrigation system the same way you think about the course
- Instant Program has simple check-box selection and Dynamic Drilldown to you can instantly create and personalize new irrigation programs
- Projected Flow View shows you areas that will be watered and how much will be applied

Communication:

- Current-sensing capabilities notify you of wire cuts and sprinklers unintentionally turned off (Network VP Only)
- Constant communication with Network VP satellites lets you take action if a power outage threatens irrigation
- Toro GDC communication and solenoid diagnostics help identify shorts, low voltage and other issues
- Weather station integration and Hand-held Remote Interface support are included as standard features

Operating System:

- Windows 7

NSN® Connect
Remote access so that you can control irrigation anytime, anywhere.

Specifying Information—Lynx Central

LX-0X-X-XX				
Model	*Computer Hardware*	*Service*	*Levels*	*Field Hardware*
LX	0X	X	X	X
LX-LYNX Central Control	1—Standard Computer 4—Premium Computer	1—1-year NSN 5—5-years NSN	0—CE 1—SE 2—PE	1—For OSMAC 7—For Network VP 8—For Network GDC
Example: When ordering a LYNX Central standard computer with one year of NSN and CE Level with Network VP field hardware, you would order: **LX-01-1-07**				

Specifying Information—Lynx CE Central Upgrade for SitePro®

Model	*Description*
LYNX-NSN-STAN	Lynx Upgrade - NSN – Standard Toro Computer
LYNX-NSN-PREM	Lynx Upgrade - NSN – Premium Toro Computer
LYNX-NONNSN-STAN	Lynx Upgrade-NSN-Standard Computer and 1-year NSN Support
LYNX-NONNSN-PREM	Lynx Upgrade-NSN-Premium Computer and 1-year NSN Support
LX-SW	Software, Lynx, Client/Server

TURF GUARD® WIRELESS SOIL MONITORING SYSTEM

Get the essential soil information you need, when you need it. Stay up to date on your current soil conditions no matter where you are. Get the information you need to make important decisions in real time. Turf Guard sensors instantly track soil moisture, salinity, and temperature, saving you time. Repeaters mount easily inside all Toro Network VP®, Network LTC® Plus and E-OSMAC® satellite pedestals.

FEATURES & BENEFITS

Reduce Water Usage and Improve Playability

Monitor moisture levels and adjust irrigation without risking turf quality. Promote root growth by avoiding over watering. Detect dry areas before they impact the turf's health.

100% Wireless Network

No wires between the repeaters and the sensors, or the sensor and the probes means that sensors can be installed anywhere on the course without disrupting play. Install sensors without having to trench or pull wires.

Take the Guesswork out of Managing Salinity

Track salt build-up and schedule flushing as needed. Get positive confirmation that your flushing reduced soil salts. Know when and how much water to flush with.

Web-based or Stand-alone Interface
Graphical course overview displays sensor data at-a-glance. Plus with Toro Lynx® Control System integration you can check course moisture, salinity and temperature readings right from your irrigation control software.

HOW IT WORKS...

- Three to five sensors buried in each green at critical root zone levels
- Additional sensors buried in fairways, tee boxes and planters
- Above-ground radio repeaters installed on or in existing irrigation pedestals
- Wireless MESH networking links all sensors to central control system
- Moisture, Temperature and Salinity readings displayed in your office

ADDITIONAL FEATURES

Operational

- Two distinct depths in the soil profile – critical root zone level and a second 5" lower. Independent measurements from each depth.
- MESH routing technology offers complete coverage even in remote canyon courses.
- Repeater mounts in most Toro irrigation satellite pedestals. An external repeater is available for other models including non-Toro pedestals.
- Supports up to 500 sensors per course
- Expected sensor battery life of 3 years, field replaceable.
- Sensor reading sent every 5 minutes.
- Automatic network configuration and failure recovery.
- Plots trends and compares historical and current readings.
- Lynx® Control System integration

Electrical

Input Power:

- Repeater: <.02A @ 6 VDC
- Base Station: <.1A @ 120 VAC, 50/60 Hz

- UL and CE approved

Dimensions:

- Body: 2" x 3" x 5"
- Spikes: 2.5" x 3/16"
- Installation Hole Diameter: 4.25"

Temperature:

- Operating: 32° F to 140° F
- Storage: -22° F to 180° F

Sensing:

- 0.1°F temperature resolution
- 0.1 % volumetric soil moisture content resolution
- 0.1 dS/m soil conductivity resolution (salinity)

Communication:

- Repeater Range: 2,000' line-of-sight
- Buried Sensor Range: 500' line-of-sight
- 900 MHz ISM Band FHSS communication
- Additional licensing not required

Specifying Information—Turf Guard

Model	Description
TG-S2-R	Turf Guard Sensor With Replaceable Battery
TG-R-INT	Repeater-Internal Mount
TG-R-EXT	Repeater-External Mount
TG-B	Base Station
TG-S2-BAT	Sensor Replacement Battery

CONTROL SYSTEM ACCESSORIES

Radio Interface Unit (RIU)

The Toro® Radio Interface Unit combines the functions of the OSMAC® Base Station and Hand-held Remote Interface (HHRI) in a single unit. Available in a dual radio configuration that performs both Base Station and HHRI functions, a single radio configuration that's programmable for either function, and a radio-less configuration that's programmable for either function and utilizes a user-supplied external radio for added flexibility.

FEATURES & BENEFITS

- Provides control of your system while you're on-the-go
- Provides both hand-held control and central-to-satellite communication
- Designed to operate continuously, 24/7
- Interfaces with your Lynx® or SitePro® central without the burden of recurring network costs
- Tailored to fit your application with programmable selections for: OSMAC Base Station and hand-held remote interface modes, independent transmit/receive UHF frequencies, independent transmit/receive private line settings (CTCSS) and transmit power.

Radio Interface Unit (RIU) Graphical User Interface.

Specifying Information—Radio Interface Unit (RIU)

Model	Description
RIU-00	Radio Interface Unit – External Radio
RIU-01	Radio Interface Unit – Single Radio
RIU-02	Radio Interface Unit – Dual Radio

Note: *FCC license required.*

Network Radio-Link and FIU with Radio

Network Radio-Link offers you the flexibility to design your irrigation system unconfined by the limitations of distance or terrain. Oversized acreage and natural barriers are not a problem for Network Radio-Link. Communicating where wires can't run, it's the bridge between non-contiguous wire line systems and much more.

FEATURES & BENEFITS

- Wireless communication to Network satellites
- Network Radio-Link kits for upgrades
- True 2-way communication
- Multi-port field interface allows one radio to be shared among many satellites
- Easy satellite installation
- Compatible with Network LTC® Plus and Network VP®

Specifying Information—Field Interface Unit (FIU)

Model	Description
FIU-2011	Field Interface Unit with 1 Wire Line & 1 Radio Line, Radio Not Included
FIU-2011R	Field Interface Unit with 1 Wire Line & 1 Radio Line, Radio Included
FIU-2021	Field Interface Unit with 2 Wire Lines & 1 Radio Line, Radio Not Included
FIU-2021R	Field Interface Unit with 2 Wire Lines & 1 Radio Line, Radio Included

Note: *FCC license required.*

Before, during and after the purchase of your Toro central control system, we pledge to support all of your needs with our National Support Network, Toro NSN® has been taking care of customers since 1991. From small system upgrades to large-scale golf applications, our knowledgeable staff, including bilingual representatives, is available to assist you over the phone 24/7, every day of the year. Our technicians are licensed irrigation specialists and can link directly to your system's computer to perform remote diagnostic checks and offer expert advice. If necessary, we can send you a replacement computer within 24 hours. Support subscriptions to Toro NSN are included with the purchase of a Toro central control system and can be renewed for extended periods after this initial subscription. NSN Connect provides remote access and our latest offering and NSN Connect Plus allows remote monitoring of your system. The NSN Customer Portal is your one-stop-shop for anything and everything dealing with your NSN relationship.

NSN® Connect for Lynx® and SitePro®

Features

- Remote access so that you can control Irrigation anytime, anywhere
- Easy access from your desktop, laptop, or mobile device
- Ability to easily transfer files
- Ability to print remote documents from a remote location

Minimum Requirements for Remote Control Devices

- Desktop or Laptop
  - Windows 7 (or later) or Mac OSX 10.7 (or later)
  - Modern web browser (Internet Explorer 9+, Chrome, Safari, Firefox)
- Tablet or Smart Phone
  - Apple (iOS), Android, or Windows 8.x
  - Any modern mobile web browser (Internet Explorer 10+, Chrome, Safari, Firefox)

NSN® Customer Portal*

Features

- Access your irrigation computer via your NSN Connect account
- View the status of your recent Orders and Shipments
- Chat with an NSN Technician
- View the status of your NSN service(s)
- See what service renewal options are available to you
- Watch training videos and view other training resources
- Access the NSN Technical Knowledge Base
- Tell us what kind of emails you would, and would not, like to receive from NSN

**Coming in 2015*

NSN® Connect Plus for Lynx

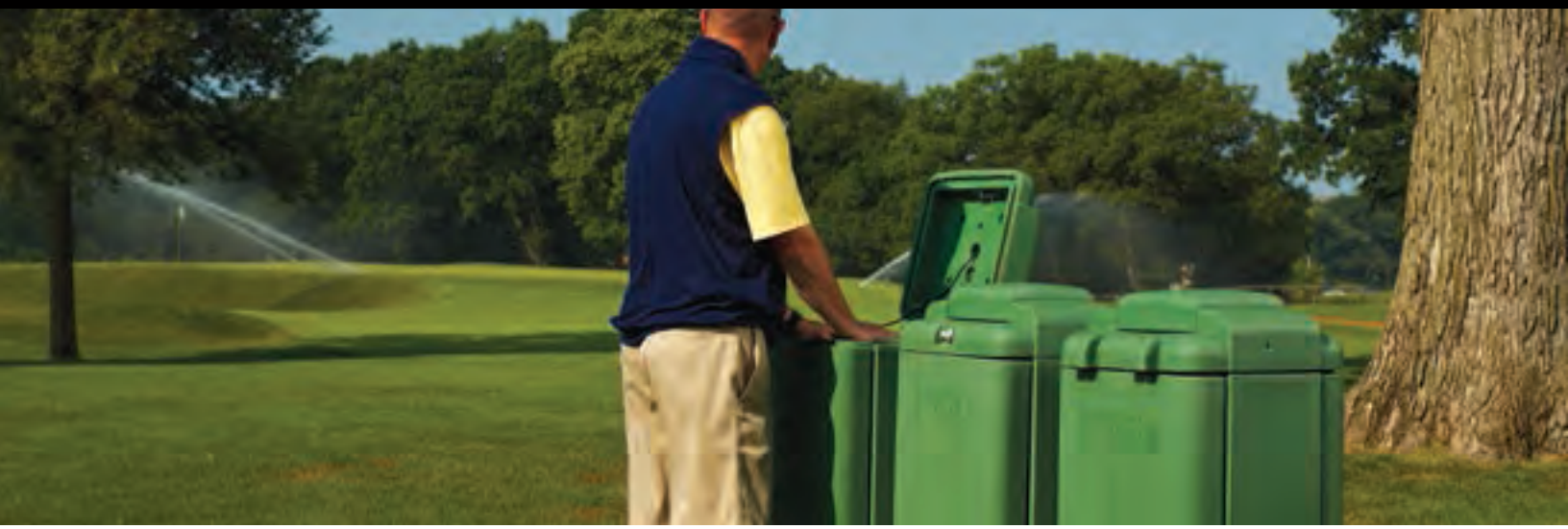
Features

- Adds remote hardware and software monitoring to NSN Connect
- Automatic notifications via Email and Txt
- Proactive support and computer hardware replacement from NSN

Specifications

- Platform – Toro® Lynx control system
- Operating System – Windows 7 (64-bit)
- User Configuration
  - Ability to have multiple email/txt recipients for alert notifications
  - Ability to set a schedule (days and times) of when to receive alert notifications
  - Ability to enable/disable specific monitors
  - Ability to have alerts sent to different recipients for different monitors
- Monitors
  - Toro Lynx Control System Software
  - Computer Hardware
- High speed Internet access required at the Irrigation computer

NETWORK VP® SATELLITES



The Network VP® satellite from Toro® combines modular flexibility, ease of use and increased control in a single controller. With individual station runtimes programmed to the second and station-based flow management, the Network VP provides the most water efficient capabilities for irrigating.

FEATURES & BENEFITS

Station Based Flow Management

Reduces nighttime water window and optimizes pump capacity. Central irrigation programs (greens, tees, etc.) are available from the satellite faceplate for manual watering and field adjustments.

Reduced Download Time

Variable Length (VL) communication reduces download time by up to 80%. Communicate all program information to field controllers in minutes.

Current Sensing Provides Protection

Monitors each station output for proper amperage draw with user defined thresholds. Under and over current alarm notification protects against electrical shorts, wire cuts, etc.

Runtime In Seconds For More Precise Watering

Station runtimes are executed to the second. This prevents individual stations from over or under watering by up to 25% compared to systems that operate only in whole minutes.

Intuitive User Interface
With backlit display for better low-light viewing. Station range entry makes establishing irrigation routines easier. DVD type controls for Start, Pause/ Resume and Stop.

Upgrade Kit – Network LTC® Plus to Network VP
Upgrade kits include a faceplate, power distribution board, and interface cable. Full installation can be completed in minutes per controller.

SPECIFICATIONS

Operational

- Operates as a stand-alone controller, or under the management of a central computer
  - Supports wireline or radio communications
  - Supports hybrid communication (wireline & radio)
- 64 irrigation programs
- Basic, Advanced and Grow-in programs
- Percent adjust from 1% to 900%
- Each output can be defined as an irrigation station or general application switch
- Non-volatile memory retains program information and satellite settings during power-off conditions. Battery back-up retains the date and time.
- 16-64 stations in 8-station increments – individual station control and the ability to run up to 32 stations simultaneously
- Backwards compatible with Toro Network 8000 satellites

Electrical

Input Power:

- 108 V ac to 132 V ac, 60 Hz
  - 0.20 amps (no load) 115 V ac
  - 1.20 amps (max load) 115 V ac
- 216 V ac to 264 V ac, 50 Hz
  - 0.10 amps (no load) 230 V ac
  - 0.60 amps (max load) 230 V ac

Output Power:

- 24 V ac - 3.0 amps (max total load)
- UL Listed

Dimensions

- Plastic Cabinet: 17" W x 40" H x 16" D

Temperature/Humidity

- Operating Temperature: -15° F to 140° F
- Storage temperature: -22° F to 149° F
- Humidity: 0% to 95% RH (non-condensing)

Options

- Surge Protection

Specifying Information—Network VP Satellites

201-XXX6XX					
Description	***Configuration***	***Cabinet***	***Output***	***Comm.***	***Options***
201	**XX**	**X**	**6**	**X**	**X**
201—Network VP Satellite	16—16 Stations 24—24 Stations 32—32 Stations 40—40 Stations 48—48 Stations 56—56 Stations 64—64 Stations	P—Plastic, Green T—Desert Sand B—Tree Bark	6—24 VAC Electric	A—Stand-alone M—2-Way Wire Modem R—UHF Radio	3—Large-capacity Terminal Block & Switches 4—Large-capacity Terminal Block w/Add'l Surge & Switches
Example: When ordering a 24-station, Stand-alone VP Satellite in a plastic cabinet with large-capacity terminal block, additional surge and switches, you would specify: **201-24P6A4**					

Specifying Information—Network LTC Plus Upgrade Kit

118-0038
Kit Contains
Network VP Faceplate, Network LTC Plus To Network VP Power Distribution Board, Cable And Hardware

E-OSMAC® AND OSMAC RDR SATELLITES

The E-OSMAC satellite is easy to install, troubleshoot and maintain. Economical because you buy only what you need and can expand as your site conditions change. They utilize paging technology to create one of the most convenient, dependable, and flexible satellites on the market. Employing wireless communication, these satellites are great for retrofit projects.

FEATURES & BENEFITS

Low Cost Wireless Communication

Ideal choice for upgrading existing systems. No communication wires are needed. Mounts to many existing pedestal bolt patterns.

Easily Expandable

E-OSMAC offers up to 64 stations in eight-station increments. The OSMAC RDR is expandable from 16 to 48 stations.

Lower Operating Costs

The enhanced surge protection on E-OSMAC and electric OSMAC RDR provide lower operating costs. Ideal for high lightning areas.

Flexible Station Outputs

Available with either electric or hydraulic station outputs. Combine satellites with different output types for added system flexibility.

E-OSMAC Synthesized Decoder Modules
Modules can be reprogrammed in the field – new frequency models can store up to 4 pre-programmed frequencies to transition from construction to permanent frequencies (narrowband).

SPECIFICATIONS

Operational

E-OSMAC:

- Colored LED indicators to confirm 24-, 9-, and 5-volt power to various boards within the cabinet
- LED's for each station output
- Internal antenna allows for smaller profile cabinet
- Patented Hot Post for each eight-station module

RDR OSMAC:

- Hydraulic or electric models available
- Multi-function hand held radio allows control and voice transmissions from the same unit
- Programmable syringe time from 30 seconds to 128 minutes in 30-second intervals.
- Optional relay card available
- Pre-wired satellite pedestal models available without RDR control unit for upgrading existing OSMAC systems

Electrical

- Input power: 120/240 V ac, 50/60 Hz

E-OSMAC:

- 0.20 amps, 110-120 V ac , 60 Hz (no load)
- 0.96 amps, 110-120 V ac, 60 Hz (max load)
- 0.10 amps, 220-240 V ac, 50/60 Hz (no load)
- 0.47 amps, 220-240 V ac, 50/60 Hz (max load)

RDR OSMAC:

- 0.17 amps, 115 V ac , 60 Hz (no load)
- 0.76 amps, 115 V ac, 60 Hz (max load)
- 0.09 amps, 230 V ac, 50 Hz (no load)
- 0.41 amps, 230 V ac, 50 Hz (max load)

- Station output power: 24 V ac; 3.0 amps (72 VA) total
- UL and CE approved

Dimensions

- Plastic Cabinet: 17" W x 40" H x 16" D
- RDR Large pedestal: 17" W x 45 ½" H x 16" D

Options

- Low-voltage Retrofit Kit for OSMAC RDR (RDR0160LVN0)
- Surge protection

Specifying Information—OSMAC RDR Satellite

RDRXXPXXX0					
Description	***Configuration***	***Cabinet***	***Output***	***Communication***	***Surge Protection***
RDR	**XX**	**P**	**XX**	**X**	**0**
RDR—OSMAC RDR Satellite	16—16 Stations 24—24 Stations 32—32 Stations 40—40 Stations 48—48 Stations	P—Plastic	01—Normally Open Hydraulic 6A—24 VAC Electric	P—Wide Band N—Narrow Band	0—No Surge
Example: When specifying a 32-station OSMAC RDR Hydraulic satellite in a plastic cabinet, normally open hydraulic output with narrow-band communication, you would specify: **RDR32P01N0**					

Specifying Information—E-OSMAC Satellites

E-XXX6AXMX					
Description	***Configuration***	***Cabinet***	***Output***	***Communication***	***Options***
E	**XX**	**X**	**6A**	**X**	**MX**
E—E-OSMAC Satellite	16—16 Stations 24—24 Stations 32—32 Stations 40—40 Stations 48—48 Stations 56—56 Stations 64—64 Stations	P—Plastic, Green T—Desert Sand B—Tree Bark	6A—Electric	N—Narrow Band P—Wide Band	3—Large-capacity Terminal Block & Switches 4—Large-capacity Terminal Block w/Additional Surge & Switches
Example: When specifying a 32-station, E-OSMAC Satellite with Narrow Band digital wireless paging, a green plastic pedestal, electric output, additional surge protection and a large-capacity terminal block switches, you would specify: **E-32P6ANM4**					

Note: *FCC license required. Frequency modules do not need to be ordered separately. Product shipped with four pre-programmed synthesized frequency modules (462.2125, 462.4375, 467.2125 and 467.4375).*

GDC 2-WIRE CONTROL SYSTEM

The Toro GDC System uses innovative technology to provide an irrigation solution to customers who want a safe, reliable and energy efficient system. Using a two-wire path to communicate to buried control units, the system eliminates the costs associated with traditional valve wire bundles and provides a solution that is vandal resistant, easy to install and easy to expand.

FEATURES & BENEFITS

Lower Costs with Flexible Configurations

GDC Systems can be configured with the modules located in valve boxes outside of the playing area for easy access and lower cost, or with the modules integrated with the sprinkler to reduce wire and splices.

Less System Downtime with Integrated Surge Protection (ISP)

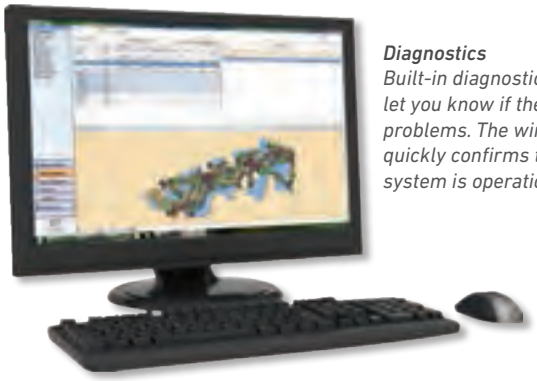
ISP 2-wire modules are rated at 20 KV surge protection—the highest in the industry. In some of the most active lightning areas of the world, the GDC provides rock-solid performance.

Easily Expandable Up To 9000 Stations

Whether you have 100, 800 or 9000 stations, the GDC system will meet your needs and can be expanded by simply adding modules.

Remote Gateway

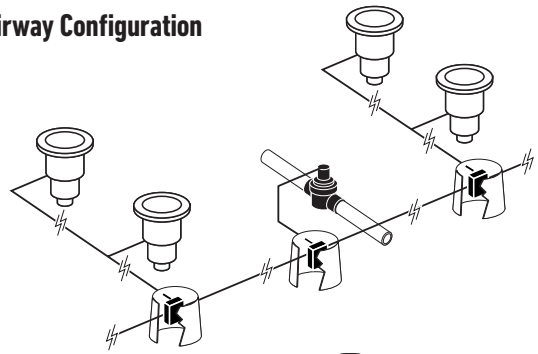
The Gateway interface can be installed remotely. This allows you to break the system into manageable pieces and, like a satellite controller, runs an automatic program if the central goes offline.



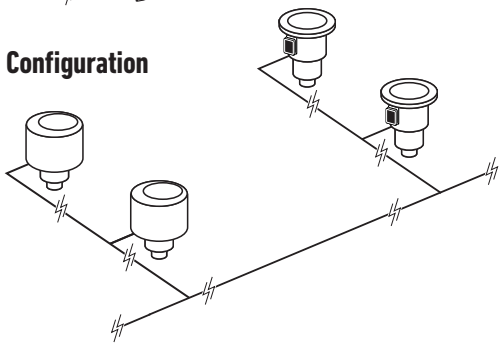
Diagnostics
Built-in diagnostics automatically let you know if there are any problems. The wire path check quickly confirms that the whole system is operational.

Integrated Sprinkler
Toro INFINITY® and FLEX800™ Series sprinkler models have an integrated 2-wire module option.

Off Fairway Configuration



Integrated Configuration



DEC-ISP-4 *DEC-ISP-2* *DEC-ISP-1*

SPECIFICATIONS

Operational

Lynx® Central:

- Mapping capabilities
- Remote hand-held operation
- Weather station integration
- Pump station integration
- Enhanced diagnostics:
  - Communication
  - Electrical shorts/opens
  - Solenoid check
- No holding power required to operate stations
- Decoder identification is a unique 5-character address
- Standalone option (GDC200)

Installation

- Maximum number of wire paths:
  - 4 per gateway
- Maximum number of gateways:
  - 4 per system (Standard)
  - 9 per system (Remote)
- Maximum number of decoders per wire path:
  - 250
- Maximum stations per gateway:
  - 1000 integrated
  - 1600 off fairway
  - 1000 remote
- Maximum stations per system:
  - 4000 integrated
  - 6400 off fairway
  - 9000 Remote
- Simultaneous stations per output board:
  - 100
- Maximum distance from central to module (using 14 gauge wire): 2.6 miles
- Maximum distance from module to sprinkler (using 14 gauge wire): 400 ft.
- Solenoids per output: 2 DCLS-P
- Stations per module: 1, 2 or 4

Electrical

- Input power:
  - 88-264 V ac, 50/60 Hz
- Output Power:
  - Output voltage: 40 V ac max
  - Output power: 75 VA max
  - Class 2, SELV
- ISP 2-wire modules are rated at 20 KV surge protection
- 2-Wire modules wiring: 14 awg

Temperature

- Operating Temperature: 32° F to 140° F
- Storage temperature: -22° F to 212° F

Standard

Lynx® *DEC-PCS-1600*

Remote

Lynx® *FIU-2011DR* *DEC-RS-1000M* *DEC-RS-1000-DR*

Specifying Information—2-Wire Modules

DEC-ISP-X	
Type	*Configuration*
DEC-ISP	**X**
DEC-ISP—Module*	1—1-station 2—2-station 4—4-station
Example: A 2-station GDC Module would be specified as: DEC-ISP-2	

**Refer to sprinkler pages for specifying information on Sprinkler 2-wire Modules*

Specifying Information—Gateway

DEC-XXX-XXXX		
Type	*Communication*	*Station Count*
DEC	**XXX**	**XXXX**
DEC	SA—Stand-alone PCS—Central RS—Remote*	200—200 Stations 1600—1600 Stations, Standard 1000-M—1000 Stations, Remote, Wired 1000-DR—1000 Stations, Remote, Radio

**1000-M & 1000-DR only*

Model	INF35-6/ INF55-6	INF35/ INF55	INF34/ INF54	FLX35-6/ FLX55-6	FLX35/ FLX55	FLX34/ FLX54
Catalog Pages	26-29	30-33	34-37	38-41	42-45	46-49
Radius	42'-100'	43'-92'	52'-99'	42'-100'	43'-92'	52'-99'
Short Radius (mainless)	25'-51'	25'-50'		25'-51'	25'-50'	
Radius Reduction Screw		X	X		Optional	Optional
Back nozzle Capable	X	X		X	X	
Inlet Size	1" & 1½" ACME#	1" & 1½" ACME	1" & 1½" ACME	1" & 1½" ACME	1" & 1½" ACME	1" & 1½" ACME
Turf	X	X	X	X	X	X
High Wind	X	X	X	X	X	X
GDC 2-wire Systems	X	X	X	X	X	X
Normally Open Hydraulic System				X'	X'	X'
Spike Guard™ Solenoid	X	X	X	X	X	X
Full Circle	X	X	X	X	X	X
Part-circle Adjustable	X	X		X	X	
Part/Full Circle In One	40°-330° & 360°	40°-330° & 360°		40°-330° & 360°	40°-330° & 360°	
Ratcheting Riser	X	X		X	X	
Check Valve				X	X	X
Effluent Water Option	X	X	X	X	X	X
Trajectory Adjustment	7°-30°	25° & 15°	25° & 15°	7°-30°	25° & 15°	25° & 15°
Nozzle Base Clutching	X	X		X	X	
SMART ACCESS® Compartment	X	X	X			
SMART ACCESS® Cover	X	X	X			
Removable Marker	X	X	X			
Pilot Valve Serviceable Under Pressure	X	X	X			
Warranty	3 Years/ 5 Years*	3 Years/ 5 Years*	3 Years/ 5 Years*	3 Years/ 5 Years*	3 Years/ 5 Years*	3 Years/ 5 Years*

*When purchased and installed with Toro Swing Joints.
X'–Complete sprinkler requires the purchase and assembly of riserless bodies and conversions.
NPT and BSP models available as riserless bodies only.

Model	FLEX800 B SERIES	T7 Rotor	690	590GF
Catalog Pages	50-53	60-61	62-63	64-65
Radius	25’-95’	Low-flow: 38’–53’ High-flow: 46’–83’	87’-108’	2'-26
Short Radius (mainless)	X	X		X
Radius Reduction Screw	Optional	X		X
Back nozzle Capable	X			
Inlet Size	1” NPT, BSP, ACME	1” ACME	1½” NPT	1/2” NPT
Flow Range	7.1-56.3 Gpm	Low-flow: 1.7–12.7 Gpm High-flow: 6.8–30.5 Gpm	51.0-82.2 Gpm	.05-4.5 Gpm
Recommended Operating Pressure	50-100 Psi	40-100 Psi	80-100 Psi	20-50 Psi
Turf	X	X	X	X
High Wind	X		X	
Low Pressure		X		X
Normally Open Hydraulic System			X	
Full Circle	X	X	1 and 2 Speed	X
Part-circle Adjustable	X	X		X
Part-circle Fixed			90˚ and 180˚	X
Part/Full Circle In One	40˚-330˚ & 360˚	X		X
Ratcheting Riser	FLX35-6B/FLX35B			X
Check Valve	X	X	X	X
Effluent Water Option	X	X		X
Trajectory Adjustment	7˚-30˚/ 25˚ & 15˚			
Warranty	3 Years/ 5 Years*	5 Years	3 Years/5 Years*	3 Years

*When purchased and installed with Toro Swing Joints.

INFINITY® 35-6/55-6 SERIES GOLF ROTORS

With the industry's largest selection of high performance nozzles and TruJectory™ adjustment the INFINTY 35-6/55-6 Series with SMART ACCESS® allows you to put water precisely where you want it for maximum distribution uniformity. And the part/full circle drive and ratcheting riser allows you to simply and economically adjust the area of coverage to match your seasonal watering needs or meet water rationing mandates in seconds with no disassembly or additional parts required.

FEATURES & BENEFITS

Industry's Largest Nozzle Selection

Nozzles from 42' to 100' radius plus a wide assortment of back nozzles lets you put the precise amount of water exactly where you need it. All color coded and debris tolerant nozzles threaded in from the front.

Hot Spot Watering

Nozzle base can be turned in either direction and held to put down as much water as needed, precisely where you want it. Standard on all Toro Part circle Golf rotors!

Adjustment With No Disassembly

A Toro original, simply pull up the riser and ratchet it to the precise position you want to water.

True Part and Full-Circle in One (40° - 330° part circle)

These sprinklers can be full circle today and part circle tomorrow allowing you to simply and economically adjust the area of coverage to match your seasonal needs or meet water rationing mandates.

Smart Access®

Provides top accessibility to all critical components.

- No digging or unsightly turf repair scars
- No buried wire splices or ground faults
- Pilot valve removable with water "ON"
- Lower long term cost of ownership
- Customizable marker
- Replaceable cover if damaged
- Increased labor efficiency

INF35-6 CONVERSION UPGRADES

MODELS	DESCRIPTION
• INF35-6-3134	INF35-6 w/31–34 Nozzles (33 Nozzle Installed)
• INF35-6-3537	INF35-6 w/35–37 Nozzles (35 Nozzle Installed)
• INF35-6-3134E	INF35-6 w/31–34 Nozzles (33 Nozzle Installed), Effluent
• INF35-6-3537E	INF35-6 w/35–37 Nozzles (35 Nozzle Installed), Effluent

INF55-6 CONVERSION UPGRADES

MODELS	DESCRIPTION
• INF55-6-5154	INF55-6 w/51–54 Nozzles (53 Nozzle Installed)
• INF55-6-5558	INF55-6 w/55–58 Nozzles (55 Nozzle Installed)
• INF55-6-59	INF55-6 w/59 Nozzle installed
• INF55-6-5154E	INF55-6 w/51–54 Nozzles (53 Nozzle Installed), Effluent
• INF55-6-5558E	INF55-6 w/55–58 Nozzles (55 Nozzle Installed), Effluent
• INF55-6-59E	INF55-6 w/59 Nozzle installed Effluent

Trajectory – 24 Positions
From 7° - 30° in 1° increments put water where you want it. Adjust from the top of the sprinkler in seconds, wet or dry. This flexibility lets you tackle every obstacle on the course; wind, trees, bunkers, mounds and more.

SPECIFICATIONS

Operational

- Inlet:
  - INF35-6: 1" ACME
  - INF55-6: 1½" ACME
- Radius:
  - INF35-6: 42' – 92'
  - INF55-6: 52' – 100'
- Flow Rate:
  - INF35-6: 7.1 – 45.3 Gpm
  - INF55-6: 13.9 - 61.1 Gpm
- Precipitation Rates:
  - INF35-6: Minimum - .37"/hr; Maximum - .53"/hr
  - INF55-6: Minimum - .43"/hr; Maximum - .60"/hr
- Pilot Valve: Selectable at 50, 65, 80 and 100 Psi
- Recommended Operating Pressure Range: 65-100 psi (maximum -150 Psi and minimum - 40 Psi)
- Activation types – Electric Valve-in-Head:
  - Standard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.30 A
    - Holding 0.20 A
  - Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - Nickel-Plated Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - DC Latching Solenoid (DCLS):
    - Momentary low voltage pulse
  - Integrated GDC Module w/DCLS:
    - Momentary low voltage pulse
- Trajectory: 24 positions from 7° - 30° in 1° increments

Additional Features

- INF35-6 has eight nozzle variations (30, 31, 32, 33, 34, 35, 36 and 37)
- INF55-6 has nine nozzle variations (51, 52, 53, 54, 55, 56, 57, 58 and 59)
- Four in-line nozzles, rotating stream pattern
- One back nozzle position
- Stator variations: INF35-6 – 3 and INF55-6 – 3
- Ratcheting riser
- Nozzle base clutching

Dimensions

- SMART ACCESS® Cover and Compartment Diameter:
  - INF35-6: 7 5/8"
  - INF55-6: 7 5/8"
- Body height:
  - INF35-6: 10"
  - INF55-6: 11 3/8"
- Weight:
  - INF35-6: 4.31 lbs.
  - INF55-6: 5.13 lbs.
- Pop-up height to nozzle: 3¼"

Warranty

- Three years
- Five years when installed with Toro Swing Joints

Specifying Information—INFINITY 35-6 & INFINITY 55-6

INFX5-XXX-X6-7

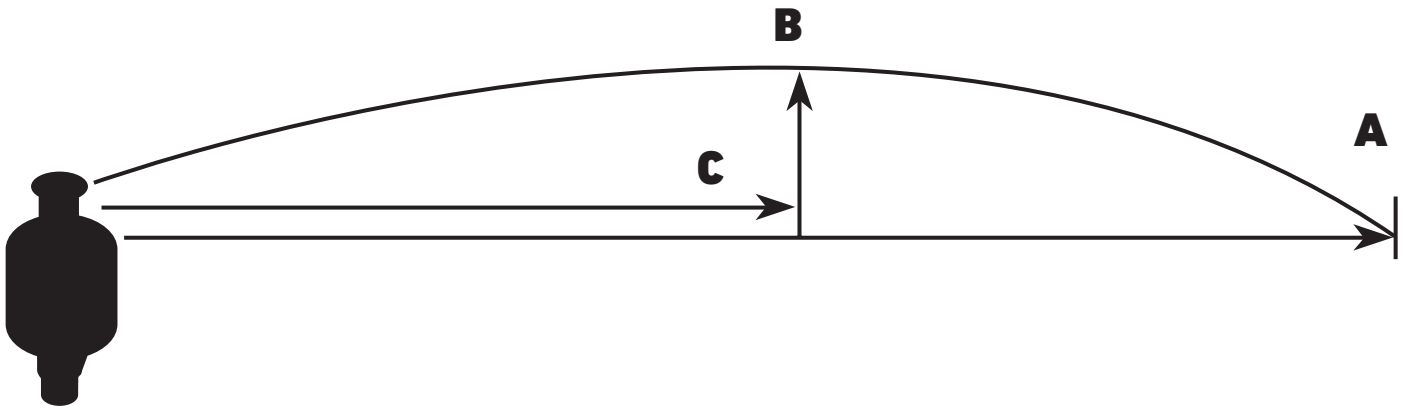
Body Inlet	Arc	Nozzle	Pressure Regulation*	Activation Type	Trajectory	Optional
INFX	**5**	**XX**	**X**	**X**	**6**	**7**
3—1" 5—1½"	5—Part-circle and Full-circle In One	**INF35**—30, 31, 32, 33, 34, 35, 36, 37 **INF55**—51, 52, 53, 54, 55, 56, 57, 58, 59	6—65 Psi 8—80 Psi 1—100 Psi	1—Standard Solenoid 2—Spike Guard™ Solenoid 3—Nickel-plated Spike Guard Solenoid 4—DC Latching Solenoid (DCLS) 5—Integrated GDC Module w/DCLS	6—24-position TruJectory	7—Effluent

Example: When specifying an INF35-6 Series Sprinkler with #34 nozzle, pressure regulation at 65 Psi and Spike Guard you would specify: **INF35-346-26**

Note: *Not all models available.*

** All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.*

INFINITY® 35-6/55-6 SERIES GOLF ROTORS



INFINITY 35-6 TRAJECTORY PERFORMANCE

Nozzle/psi/gpm	#31 Nozzle @ 65 psi, 15.5 gpm						#32 Nozzle @ 65 psi, 20.5 gpm						#33 Nozzle @ 65 psi, 22.9 gpm					
Trajectory	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°
"A" Radius	46'	46'	50'	53'	54'	50'	46'	49'	51'	55'	63'	54'	54'	56'	59'	62'	66'	61'
"B" Spray Height	4'	4'	5'	8'	11'	13'	3'	4'	6'	9'	12'	15'	4'	5'	7'	9'	13'	15'
"C" Distance from Head	25'	25'	26'	33'	33'	33'	20'	24'	28'	34'	34'	34'	23'	28'	32'	34'	35'	35'

Nozzle/psi/gpm	#34 Nozzle @ 65 psi, 30.0 gpm						#35 Nozzle @ 65 psi, 32.4 gpm						#36 Nozzle @ 80 psi, 34.0 gpm					
Trajectory	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°
"A" Radius	58'	60'	63'	67'	74'	70'	59'	61'	64'	70'	76'	74'	64'	68'	76'	80'	84'	82'
"B" Spray Height	4'	4'	6'	11'	14'	17'	4'	5'	7'	11'	15'	17'	5'	7'	9'	14'	17'	22'
"C" Distance from Head	24'	26'	35'	39'	39'	39'	30'	32'	36'	43'	43'	43'	25'	38'	40'	45'	49'	45'

Nozzle/psi/gpm	#37 Nozzle @ 80 psi, 39.8 gpm					
Trajectory	7°	10°	15°	20°	25°	30°
"A" Radius	65'	69'	78'	82'	86'	84'
"B" Spray Height	5'	7'	9'	14'	18'	22'
"C" Distance from Head	30'	39'	41'	46'	50'	46'

INFINITY 55-6 TRAJECTORY PERFORMANCE

Nozzle/psi/gpm	#51 Nozzle @65 psi, 15.7 gpm						#52 Nozzle @65 psi, 20.8 gpm						#53 Nozzle @65 psi, 23.4 gpm					
Trajectory	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°
"A" Radius	46'	46'	51'	53'	54'	50'	49'	50'	51'	55'	64'	65'	54'	56'	59'	62'	68'	61'
"B" Spray Height	4'	4'	6'	10'	13'	15'	4'	4'	6'	9'	11'	13'	5'	6'	7'	9'	13'	15'
"C" Distance from Head	26'	27'	32'	38'	40'	41'	22'	26'	31'	35'	34'	30'	30'	33'	32'	35'	37'	37'

Nozzle/psi/gpm	#54 Nozzle @ 65 psi, 31.2 gpm						#55 Nozzle @ 65 psi, 33.8 gpm						#56 Nozzle @ 80 psi, 35.7 gpm					
Trajectory	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°
"A" Radius	58'	60'	63'	67'	74'	70'	59'	62'	66'	70'	76'	77'	72'	73'	75'	82'	85'	82'
"B" Spray Height	5'	6'	8'	10'	15'	17'	6'	6'	9'	11'	15'	17'	5'	7'	9'	14'	17'	22'
"C" Distance from Head	31'	34'	40'	41'	41'	42'	34'	36'	43'	45'	45'	45'	25'	38'	40'	45'	49'	45'

Nozzle/psi/gpm	#57 Nozzle @ 80 psi, 41.9 gpm						#58 Nozzle @ 80 psi, 46.2 gpm						#59 Nozzle @ 80 psi, 53.3 gpm					
Trajectory	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°
"A" Radius	72'	74'	77'	83'	89'	85'	75'	77'	83'	87'	92'	88'	77'	78'	84'	89'	96'	92'
"B" Spray Height	5'	7'	9'	14'	18'	22'	6'	7'	10'	15'	18'	22'	7'	8'	11'	16'	21'	25'
"C" Distance from Head	30'	39'	41'	46'	50'	46'	38'	40'	43'	47'	52'	48'	42'	44'	45'	47'	53'	49'

Information is for reference only. Actual results may vary.

INFINITY® 35-6/55-6 SERIES GOLF ROTORS

INFINITY 35-6 SERIES PERFORMANCE CHART

Base Pressure	Nozzle Set 30 (White)		Nozzle Set 31 (Yellow)		Nozzle Set 32 (Blue)		Nozzle Set 33 (Brown)		Nozzle Set 34 (Orange)		Nozzle Set 35 (Green)		Nozzle Set 36 (Gray)		Nozzle Set 37 (Black)	
	102-2208		102-4587		102-4588		102-4589		102-0728		102-0729		102-0730		102-4261	
	Blue	Gray	Blue	Gray	Red	Gray	Orange	Gray	Orange	Gray	Blue	Gray	Blue	Gray	Orange	Gray
	102-2925	102-2910	102-2925	102-2910	102-2928	102-2910	102-2926	102-2910	102-2926	102-2910	102-2925	102-2910	102-2925	102-2910	102-2926	102-2910
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	42	7.1	52	13.7	61	17.1	64	20.2	69	27.4	—	—	—	—	—	—
65	45	8.7	54	15.5	63	20.5	66	22.9	74	30.0	76	32.4	80	34.0	—	—
80	46	9.6	57	17.0	67	22.6	70	25.3	77	33.2	79	35.8	84	37.5	86	40.8
100	48	11.2	59	18.9	72	25.2	74	28.2	80	37.0	84	39.9	88	42.5	92	45.3
Stator	102-6929 Blue		102-1939 Yellow								102-1940 White					
Conversions			INF35-6-3134								INF35-6-3537					

INFINITY 55-6 SERIES PERFORMANCE CHART

Base Pressure	Nozzle Set 51 (Yellow)		Nozzle Set 52 (Blue)		Nozzle Set 53 (Brown)		Nozzle Set 54 (Orange)		Nozzle Set 55 (Green)		Nozzle Set 56 (Gray)		Nozzle Set 57 (Black)		Nozzle Set 58 (Red)		Nozzle Set 59 (Beige)	
	102-4587		102-4588		102-4589		102-0728		102-0729		102-0730		102-4261		102-4260		102-4259	
	Blue	Gray	Red	Gray	Orange	Gray	Orange	Gray	Blue	Gray	Blue	Gray	Orange	Gray	Blue	Gray	Blue	Gray
	102-2925	102-2910	102-2928	102-2910	102-2926	102-2910	102-2926	102-2910	102-2925	102-2910	102-2925	102-2910	102-2926	102-2910	102-2925	102-2910	102-2925	102-2910
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	52	13.9	62	17.4	66	20.7	69	28.6	—	—	—	—	—	—	—	—	—	—
65	54	15.7	64	20.8	68	23.4	74	31.2	76	33.8	81	35.7	—	—	—	—	—	—
80	57	17.2	68	22.9	72	25.8	77	34.4	79	37.2	85	39.4	89	43.6	92	47.5	96	57.0
100	59	19.1	73	25.5	76	28.7	80	38.2	84	41.3	89	43.7	94	48.5	95	51.1	100	61.1
Stator	102-1939 Yellow								102-1940 White								102-1941	
Conver.	INF55-6-5154								INF55-6-5558								INF55-6-59	

Not recommended at these pressures. Radius shown in feet.

Toro recommends the use of a 11/4" swing joint at flows over 25-Gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1. Actual site conditions must be considered when selecting the appropriate nozzle. All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

Main Nozzle Adapter
A wide assortment of intermediate and inner nozzles for use in the main nozzle adapter and back nozzle position provide unmatched nozzle flexibility.

Note: Main Nozzle Adapter Data Located on Pages 54. Back Nozzle Data Located on Page 59.

INFINITY® 35/55 SERIES GOLF ROTORS

The New INFINITY 35/55 Series with SMART ACCESS® features a dual trajectory main nozzle that provides exceptional nozzle performance at the 25° standard angle position and great performance in windy applications at the 15° low angle position. And the part/full circle drive and ratcheting riser allows you to adjust the area of coverage to match your seasonal watering needs or meet water rationing mandates in seconds with no additional parts required.

FEATURES & BENEFITS

Industry's Largest Nozzle Selection

Nozzles from 43' to 92' radius plus a wide assortment of back nozzles lets you put the precise amount of water exactly where you need it. All nozzles threaded in from front.

Stainless Steel Valve Seat

Eliminates body damage from rocks and debris. This in-destructible stainless steel seat is molded to the body and virtually eliminates body replacements due to seat damage. Standard on all Toro Golf rotors!

Radius Reduction Screw

Allows for fine tuning the radius to exactly the distance you need. In combination with main nozzle sizing and trajectory adjustment the radius reduction screw can effectively reduce the sprinkler throw down to 30'.

True Part and Full-Circle in One (40° - 330° part circle)

These sprinklers can be full circle today and part circle tomorrow allowing you to adjust the area of coverage to match your seasonal needs or meet water rationing mandates.

Smart Access®

Provides top accessibility to all critical components.

- ✔ No digging or unsightly turf repair scars
- ✔ No buried wire splices or ground faults
- ✔ Pilot valve removable with water "ON"
- ✔ Lower long term cost of ownership
- ✔ Customizable marker
- ✔ Replaceable cover if damaged
- ✔ Increased labor efficiency

INF35 CONVERSION UPGRADES

MODELS	DESCRIPTION
• INF35-3134	INF35 w/31–34 Nozzles (#3 Nozzle Installed)
• INF35-3537	INF35 w/35–37 Nozzles (#5 Nozzle Installed)
• INF35-3134E	INF35 w/31–34 Nozzles (#3 Nozzle Installed), Effluent
• INF35-3537E	INF35 w/35–37 Nozzles (#5 Nozzle Installed), Effluent

INF55 CONVERSION UPGRADES

MODELS	DESCRIPTION
• INF55-5154	INF55 w/51–54 Nozzles (#3 Nozzle Installed)
• INF55-5558	INF55 w/55–58 Nozzles (#5 Nozzle Installed)
• INF55-59	INF55 w/59 Nozzle
• INF55-5154E	INF55 w/51–54 Nozzles (#3 Nozzle Installed), Effluent
• INF55-5558E	INF55 w/55–58 Nozzles (#5 Nozzle Installed), Effluent
• INF55-59E	INF55 w/59 Nozzle, Effluent

Dual Trajectory
The 25° setting provides maximum distance of throw and the 15° setting provides improved wind performance, radius reduction and obstacle avoidance.

SPECIFICATIONS

Operational

- Inlet:
  - INF35: 1" ACME
  - INF55: 1½" ACME
- Radius:
  - INF35: 43' – 83'
  - INF55: 55' – 92'
- Flow Rate:
  - INF35: 8.2 – 47.3 gpm
  - INF55: 14.1 – 61.3 gpm
- Precipitation Rates:
  - INF35: Minimum - .41"/hr; Maximum - .45"/hr
  - INF55: Minimum - .46"/hr; Maximum - .58"/hr
- Pilot Valve: Selectable at 50, 65, 80 and 100 psi
- Recommended Operating Pressure Range: 65-100 psi (maximum – 150 Psi and minimum – 40 psi)
- Activation types – Electric Valve-in-Head:
  - Standard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.30 A
    - Holding 0.20 A
  - Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - Nickel-Plated Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - DC Latching Solenoid (DCLS):
    - Momentary low voltage pulse
  - Integrated GDC Module w/DCLS:
    - Momentary low voltage pulse

Additional Features

- INF35 has eight nozzle variations (30, 31, 32, 33, 34, 35, 36 & 37)
- INF55 has nine nozzle variations (51, 52, 53, 54, 55, 56, 57, 58 & 59)
- Three in-line nozzles, rotating stream pattern
- Two back nozzle positions
- Stator variations: 3
- Radius reduction screw 363-4839 for fine tuning
- Ratcheting riser
- Nozzle base clutching

Dimensions

- SMART ACCESS® Cover and Compartment Diameter:
  - INF35: 7 5/8"
  - INF55: 7 5/8"
- Body height:
  - INF35: 10"
  - INF55: 11 3/8"
- Weight:
  - INF35: 4.26 lbs.
  - INF55: 5.08 lbs.
- Pop-up height to nozzle: 3¼"

Warranty

- Three years
- Five years when installed with Toro Swing Joints

Specifying Information—INFINITY 35 & INFINITY 55

INFX5-XXX-X7					
Body Inlet	*Arc*	*Nozzle*	*Pressure Regulation**	*Activation Type*	*Optional*
INFX	**5**	**XX**	**X**	**X**	**7**
3—1" 5—1½"	5—Part-circle and Full-circle In One	**INF35**—30, 31, 32, 33, 34, 35, 36, 37 **INF55**—51, 52, 53, 54, 55, 56, 57, 58, 59	6—65 Psi 8—80 Psi 1—100 Psi	1—Standard Solenoid 2—Spike Guard™ Solenoid 3—Nickel-plated Spike Guard Solenoid 4—DC Latching Solenoid (DCLS) 5—Integrated GDC Module w/DCLS	7—Effluent
Example: When specifying an INF35 Series Sprinkler with #34 nozzle, pressure regulation at 65 Psi and Spike Guard you would specify: **INF35–346–2**					

Note: *Not all models available.*

** All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.*

INFINITY® 35/55 SERIES GOLF ROTORS

INFINITY 35 SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 30 (White Plug)		Nozzle Set 31 (Yellow)		Nozzle Set 32 (Blue)		Nozzle Set 33 (Brown)		Nozzle Set 34 (Orange)		Nozzle Set 35 (Green)		Nozzle Set 36 (Gray)		Nozzle Set 37 (Black)	
	102-2208		102-6906		102-0726		102-6907		102-0728		102-6955		102-6935		102-6936	
	Yellow	Biege	Yellow	Brown	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green
	102-5670	102-6942	102-5670	102-5671	102-5670	102-6884	102-5670	102-6884	102-5670	102-6884	102-5670	102-6885	102-6531	102-6885	102-6531	102-6885
Back Nozzle Positions	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug
	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	43	8.2	53	13.8	56	18.3	61	21.7	65	25.3	—	—	—	—	—	—
65	45	10.0	53	15.5	59	20.5	64	24.4	68	28.2	72	34.1	—	—	—	—
80	46	11.5	57	17.3	62	22.7	67	27.1	71	31.1	75	37.8	78	40.3	80	44.0
100	47	13.4	59	19.1	65	24.9	70	29.8	74	34.1	79	40.9	81	43.8	83	47.3

INFINITY 35 SERIES PERFORMANCE CHART—15°

psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	43	8.2	52	13.6	58	18.1	61	21.5	62	25.6	—	—	—	—	—	—
65	45	10.0	54	15.3	60	20.3	64	24.2	65	27.3	69	33.1	—	—	—	—
80	46	11.5	58	17.2	64	22.6	69	26.8	69	30.2	75	36.8	76	39.7	76	42.9
100	47	13.4	60	19.0	66	24.7	71	29.5	72	32.9	78	39.5	82	42.6	82	46.1
Stator	102-6929 Blue		102-1939 Yellow								102-1940 White					
Conversions			INF35-3134								INF35-3537					

Not recommended at these pressures. Radius shown in feet.

Toro recommends the use of a 1¼" swing joint at flows over 25-Gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1. Actual site conditions must be considered when selecting the appropriate nozzle.

All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

INFINITY 35 NOZZLE APEX

Pressure	Nozzle	Apex at 15°	Apex at 25°
65 psi	31	6' @ 51'	13' @ 54'
	32	6' @ 51'	11' @ 64'
	33	7' @ 59'	13' @ 68'
	34	8' @ 63'	15' @ 74'
	35	9' @ 66'	15' @ 76'
80 psi	36	8' @ 75'	18' @ 83'
	37	9' @ 74'	19' @ 82'

INFINITY 55 SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 51 (Yellow) 102-6906		Nozzle Set 52 (Blue) 102-0726		Nozzle Set 53 (Brown) 102-6907		Nozzle Set 54 (Orange) 102-0728		Nozzle Set 55 (Green) 102-6955		Nozzle Set 56 (Gray) 102-6935		Nozzle Set 57 (Black) 102-6936		Nozzle Set 58 (Red) 102-6909		Nozzle Set 59 (Beige) 102-4259	
	Yellow 102-5670	Brown 102-5671	Yellow 102-5670	Yellow 102-6884	Yellow 102-5670	Yellow 102-6884	Yellow 102-5670	Yellow 102-6884	Yellow 102-5670	Green 102-6885	Green 102-6531	Green 102-6885	Green 102-6531	Green 102-6885	Green 102-6531	Green 102-6885	Green 102-6531	Green 102-6885
Back Nozzle Positions	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	55	14.1	57	18.5	62	22.3	66	25.8	—	—	—	—	—	—	—	—	—	—
65	57	15.8	60	20.9	65	25.1	69	28.7	73	35.9	—	—	—	—	—	—	—	—
80	59	17.5	61	23.1	68	27.8	72	31.7	76	39.7	80	43.1	83	48.2	85	50.0	89	57.5
100	61	19.3	63	25.3	71	30.3	75	34.5	80	43.5	83	49.0	88	51.5	90	53.9	92	61.3

INFINITY 55 SERIES PERFORMANCE CHART—15°

psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	gadius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	55	14.0	59	16.5	62	22.2	63	25.6	—	—	—	—	—	—	—	—	—	—
65	56	15.6	62	20.7	65	25.0	66	28.5	75	35.3	—	—	—	—	—	—	—	—
80	59	17.4	66	23.0	69	27.7	70	31.5	78	39.0	78	42.4	79	46.9	79	49.5	82	57.2
100	60	19.2	68	25.1	71	30.2	72	34.3	80	41.9	81	47.2	83	52.1	83	53.4	85	60.8
Stator	102-1939 Yellow								102-1940 White								102-1941 White	
Conversions	INF35-3134								INF35-3537								INF55-59	

Not recommended at these pressures. Radius shown in feet.
Toro recommends the use of a 1¼" swing joint at flows over 25-Gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1.
Actual site conditions must be considered when selecting the appropriate nozzle.
All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

INFINITY 55 NOZZLE APEX

Pressure	Nozzle	Apex at 15˚	Apex at 25°
65 psi	51	6' @ 51'	13' @ 54'
	52	6' @ 51'	11' @ 64'
	53	7' @ 59'	13' @ 68'
	54	8' @ 63'	15' @ 74'
	55	9' @ 66'	15' @ 76'
80 psi	56	8' @ 75'	18' @ 83'
	57	9' @ 74'	19' @ 82'
	58	10' @ 82'	18' @ 87'
	59	11' @ 81'	21' @ 91'

Note: Main Nozzle Adapter Data Located on Pages 54.
Back Nozzle Data Located on Page 59.

INFINITY® 34/54 SERIES GOLF ROTORS

The New INFINITY 34/54 is Toro's Premium full-circle golf sprinkler series with SMART ACCESS®. The dual trajectory main nozzle provides exceptional nozzle performance at the 25° standard angle position and great performance in windy applications at the 15° low angle position. And the consistency of the constant velocity full circle drive ensures even water application across the coverage area every time you water.

FEATURES & BENEFITS

Industry's Largest Nozzle Selection

Nozzles from 52' to 100'. Color coded for easy flow and radius identification and threaded from the front to simplify servicing.

Constant Velocity Full Circle Drive

Ensures consistent rotation speeds when matched with station run times for even water application across the coverage area every time you water.

Radius Reduction Screw for Fine Tuning

In combination with main nozzle sizing and trajectory adjustment the radius reduction screw can effectively reduce the sprinkler throw down to 30'.

Five Activation Types

- Standard solenoid
- Spike Guard™ solenoid
- Nickel plated Spike Guard solenoid
- DC Latching Solenoid (DCLS)
- Integrated GDC module with DCLS
- Available on all INFINITY models!

Smart Access®

Provides top accessibility to all critical components.

- No digging or unsightly turf repair scars
- No buried wire splices or ground faults
- Pilot valve removable with water "ON"
- Lower long term cost of ownership
- Customizable marker
- Replaceable cover if damaged
- Increased labor efficiency

INF34 CONVERSION UPGRADES

MODELS	DESCRIPTION
• INF34-3134	INF34 w/31–34 Nozzles (33 Nozzle Installed)
• INF34-3537	INF34 w/35–37 Nozzles (35 Nozzle Installed)
• INF34-3134E	INF34 w/31–34 Nozzles (33 Nozzle Installed), Effluent
• INF34-3537	INF34 w/35–37 Nozzles (35 Nozzle Installed), Effluent

INF54 CONVERSION UPGRADES

MODELS	DESCRIPTION
• INF54-5154	INF54 w/51–54 Nozzles (53 Nozzle Installed)
• INF54-5558	INF54 w/55–58 Nozzles (55 Nozzle Installed)
• INF54-59	INF54 w/ 59 Nozzle installed
• INF54-5154E	INF54 w/51–54 Nozzles (53 Nozzle Installed), Effluent
• INF54-5558E	INF54 w/55–58 Nozzles (55 Nozzle Installed), Effluent
• INF54-59E	INF54 w/ 59 Nozzle installed Effluent

Dual Trajectory - 25° or 15°
Provides two selections for the main nozzle trajectory; the 25 degree setting provides maximum distance of throw and the 15 degree setting provides improved wind performance, radius reduction and obstacle avoidance.

SPECIFICATIONS

Features

- Dual Trajectory adjustment on main nozzle - 25° or 15°
- Constant velocity full circle drive
- Radius reduction screw can effectively reduce the sprinkler throw down to 30'

Operational

- Inlet:
  - INF34: 1" ACME
  - INF54: 1½" ACME
- Radius:
  - INF34: 52' – 91'
  - INF54: 52' – 99'
- Flow Rate:
  - INF34: 13.0 – 46.9 gpm
  - INF54: 13.2 - 61.8 gpm
- Precipitation Rates:
  - INF34: Minimum - .33"/hr; Maximum - .55"/hr
  - INF54: Minimum - .33"/hr; Maximum - .61"/hr
- Pilot Valve: Selectable at 50, 65, 80 and 100 psi
- Recommended Operating Pressure Range: 65-100 psi (maximum-150 psi and minimum-40 psi)
- Activation types – Electric Valve-in-Head:
  - Standard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.30 A
    - Holding 0.20 A
  - Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - Nickel-Plated Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - DC Latching Solenoid (DCLS):
    - Momentary low voltage pulse
  - Integrated GDC Module w/DCLS:
    - Momentary low voltage pulse
- Trajectory: 25° or 15°

Dimensions

- SMART ACCESS® Cover and Compartment Diameter:
  - INF34: 7 5/8"
  - INF54: 7 5/8"
- Body height:
  - INF34: 10"
  - INF54: 11 3/8"
- Weight:
  - INF34: 4.22 lbs.
  - INF54: 5.04 lbs.
- Pop-up height to nozzle: 3¼"

Warranty

- Three years
- Five years when installed with Toro Swing Joints

Specifying Information—INFINITY 34 & INFINITY 54

INFX4-XXX-X-7					
Body Inlet	*Arc*	*Nozzle*	*Pressure Regulation**	*Activation Type*	*Optional*
INFX	**5**	**XX**	**X**	**X**	**7**
3—1" 5—1½"	4—Full Circle	**INF34**—31, 32, 33, 34, 35, 36, 37 **INF54**—51, 52, 53, 54, 55, 56, 57, 58, 59	6—65 Psi 8—80 Psi 1—100 Psi	1—Standard Solenoid 2—Spike Guard™ Solenoid 3—Nickel-plated Spike Guard Solenoid 4—DC Latching Solenoid (DCLS) 5—Integrated GDC Module w/DCLS	7—Effluent
Example: When specifying an INF34 Series Sprinkler with #34 nozzle, pressure regulation at 65 Psi and Spike Guard you would specify: **INF34–346–2**					

Note: *Not all models available.*

** All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.*

INFINITY® 34/54 SERIES GOLF ROTORS

INFINITY 34 SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 31 (Yellow)		Nozzle Set 32 (Blue)		Nozzle Set 33 (Brown)		Nozzle Set 34 (Orange)		Nozzle Set 35 (Green)		Nozzle Set 36 (Gray)		Nozzle Set 37 (Black)	
	102-0725		102-7001		102-0727		102-7002		102-6908		102-0730		102-4261	
	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Brown
	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-6883
Back Nozzle Positions	Yellow	Blue	Yellow	Orange	Yellow	Red	Yellow	Beige	Yellow	Beige	Yellow	Red	Yellow	Gray
	102-6937	102-2925	102-6937	102-2926	102-6937	102-2928	102-6937	102-2929	102-6937	102-2929	102-6937	102-6944	102-6937	102-6945
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	57	13.0	58	15.5	64	21.9	68	24.4	—	—	—	—	—	—
65	58	14.6	60	18.0	68	24.4	72	28.1	76	32.2	—	—	—	—
80	60	16.2	63	20.5	72	26.9	76	31.1	80	35.6	83	38.2	85	41.5
100	62	17.9	66	23.4	75	29.8	79	34.9	84	49.3	88	43.4	91	46.9

INFINITY 34 SERIES PERFORMANCE CHART—15°

psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	52	12.9	53	15.6	60	21.7	62	25.5	—	—	—	—	—	—
65	53	14.4	54	17.1	61	24.2	64	28.0	67	32.1	—	—	—	—
80	56	16.0	57	19.0	65	26.6	69	31.0	73	35.5	76	38.0	77	41.3
100	57	17.5	59	20.5	67	29.5	71	33.9	75	38.4	80	43.1	81	46.8
Stator	102-6929 Blue								102-1940 White					
Conversions	INF34-3134								INF34-3537					

Not recommended at these pressures. Radius shown in feet.
Toro recommends the use of a 11/4" swing joint at flows over 25-Gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1.
Actual site conditions must be considered when selecting the appropriate nozzle.
All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

INFINITY 34 NOZZLE APEX

Pressure	Nozzle	Apex at 15˚	Apex at 25°
65 psi	31	6' @ 51'	13' @ 54'
	32	6' @ 51'	11' @ 64'
	33	7' @ 59'	13' @ 68'
	34	8' @ 63'	15' @ 74'
	35	9' @ 66'	15' @ 76'
80 psi	36	8' @ 75'	18' @ 83'
	37	9' @ 74'	19' @ 82'

INFINITY 54 SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 51 (Yellow) 102-0725		Nozzle Set 52 (Blue) 102-7001		Nozzle Set 53 (Brown) 102-0727		Nozzle Set 54 (Orange) 102-7002		Nozzle Set 55 (Green) 102-6908		Nozzle Set 56 (Gray) 102-0730		Nozzle Set 57 (Black) 102-4261		Nozzle Set 58 (Red) 102-4260		Nozzle Set 59 (Beige) 102-4259	
	Red Plug 102-4335													Brown 102-6883		Brown 102-6883		
Back Nozzle Positions	Yellow 102-6937	Blue 102-2925	Yellow 102-6937	Orange 102-2926	Yellow 102-6937	Red 102-2928	Yellow 102-6937	Beige 102-2929	Yellow 102-6937	Beige 102-2929	Yellow 102-6937	Red 102-6944	Yellow 102-6937	Gray 102-6945	Yellow 102-6937	Gray 102-6945	Yellow 102-6937	Gray 102-6945
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	58	13.2	59	15.7	64	22.0	70	26.2	—	—	—	—	—	—	—	—	—	—
65	60	14.8	61	17.5	68	24.8	74	29.3	79	34.2	—	—	—	—	—	—	—	—
80	61	16.4	64	20.0	72	27.6	78	32.6	83	38.0	85	40.7	87	44.9	91	50.2	96	55.6
100	63	18.1	67	23.6	75	30.4	81	36.7	87	42.5	90	45.8	93	50.2	95	55.4	99	61.8

INFINITY 54 SERIES PERFORMANCE CHART—15°

psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	52	13.2	53	15.6	61	22.0	65	26.0	—	—	—	—	—	—	—	—	—	—
65	53	14.8	54	17.1	63	24.8	67	29.2	69	34.1	—	—	—	—	—	—	—	—
80	56	16.4	58	19.0	68	27.6	72	32.5	75	37.8	79	40.4	81	44.6	85	49.9	87	55.3
100	58	18.1	60	20.5	71	30.4	75	36.4	79	42.3	84	45.5	87	49.9	89	55.1	94	61.5
Stator	102-6929 Blue								102-1940 White								102-1941 White	
Conversions	INF54-5154								INF54-5558								INF54-59	

Not recommended at these pressures. Radius shown in feet.
Toro recommends the use of a 11/4" swing joint at flows over 25-Gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1.
Actual site conditions must be considered when selecting the appropriate nozzle.
All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

INFINITY 54 NOZZLE APEX

Pressure	Nozzle	Apex at 15°	Apex at 25°
65 psi	51	6' @ 51'	13' @ 54'
	52	6' @ 51'	11' @ 64'
	53	7' @ 59'	13' @ 68'
	54	8' @ 63'	15' @ 74'
	55	9' @ 66'	15' @ 76'
80 psi	56	8' @ 75'	18' @ 83'
	57	9' @ 74'	19' @ 82'
	58	10' @ 82'	18' @ 87'
	59	11' @ 81'	21' @ 91'

Note: Main Nozzle Adapter Data Located on Pages 54. Back Nozzle Data Located on Page 59.

Main Nozzle Adapter
A wide assortment of intermediate and inner nozzles for use in the main nozzle adapter and back nozzle position provide unmatched nozzle flexibility.

FLEX800™ 35-6/55-6 SERIES GOLF ROTORS

NEW!

With the industry's largest selection of high performance nozzles and TruJectory™ adjustment the New FLEX800 35-6/55-6 Series allows you to put water precisely where you want it for maximum distribution uniformity. And the part/full circle drive allows you to simply and economically adjust the area of coverage to match your seasonal watering needs or meet water rationing mandates in seconds with no disassembly or additional parts required.

FEATURES & BENEFITS

Industry's Largest Nozzle Selection

Nozzles from 42' to 100' radius plus a wide assortment of back nozzles lets you put the precise amount of water exactly where you need it. All nozzles threaded in from the front.

20,000 Volt Lightning Rating

Spike-Guard™ solenoid virtually eliminates the need for replacements in high lightning areas. Draws half the amperage of traditional solenoids so you can run twice as many sprinklers simultaneously, reduce the cost of wire during initial installation or increase the distance from controller to sprinkler.

Adjustment With No Disassembly

Toro exclusive, simply pull up the riser and ratchet it to the precise position you want to water.

True Part and Full-Circle in One (40° - 330° part circle)

These sprinklers can be full circle today and part circle tomorrow allowing you to simply and economically adjust the area of coverage to match your seasonal needs or meet water rationing mandates.

FLX35-6 FLX55-6

Trajectory – 24 Positions
From 7° - 30° in 1° increments put water where you want it. Adjust from the top of the sprinkler in seconds, wet or dry. This flexibility lets you tackle every obstacle on the course; wind, trees, bunkers, mounds and more.

FLX35-6 CONVERSION UPGRADES

MODELS	DESCRIPTION
• FLX35-6-3134	FLX35-6 w/31–34 Nozzles (33 Nozzle Installed)
• FLX35-6-3537	FLX35-6 w/35–37 Nozzles (35 Nozzle Installed)
• FLX35-6-3134E	FLX35-6 w/31–34 Nozzles (33 Nozzle Installed), Effluent
• FLX35-6-3537E	FLX35-6 w/35–37 Nozzles (35 Nozzle Installed), Effluent

FLX55-6 CONVERSION UPGRADES — RIBBED BODY

MODELS	DESCRIPTION
• FLX55-6-5154	FLX55-6 w/51–54 Nozzles (53 Nozzle Installed)
• FLX55-6-5558	FLX55-6 w/55–58 Nozzles (55 Nozzle Installed)
• FLX55-6-59	FLX55-6 w/59 Nozzle installed
• FLX55-6-5154E	FLX55-6 w/51–54 Nozzles (53 Nozzle Installed), Effluent
• FLX55-6-5558E	FLX55-6 w/55–58 Nozzles (55 Nozzle Installed),
• FLX55-6-59E	FLX55-6 w/59 Nozzle installed, Effluent
• 102-5011	690 Adapter allows you to upgrade any 690 with FLX55-6 conversions
• 102-0950	Required to Upgrade all 650, 670, 680, 750, and 780 Series Sprinklers

FLX55-6 CONVERSION UPGRADES — RIBLESS BODY

MODELS	DESCRIPTION
• FLX55-6-5154R	FLX55-6 w/51–54 Nozzles (53 Nozzle Installed)
• FLX55-6-5558R	FLX55-6 w/55–58 Nozzles (55 Nozzle Installed)
• FLX55-6-59R	FLX55-6 w/59 Nozzle installed
• FLX55-6-5154RE	FLX55-6 w/51–54 Nozzles (53 Nozzle Installed), Effluent
• FLX55-6-5558RE	FLX55-6 w/55–58 Nozzles (55 Nozzle Installed), Effluent
• FLX55-6-59RE	FLX55-6 w/59 Nozzle installed, Effluent

SPECIFICATIONS

Operational

- Inlet:
  - FLX35-6: 1" ACME
  - FLX55-6: 1½" ACME
- Radius:
  - FLX35-6: 42' – 92'
  - FLX55-6: 52' – 100'
- Flow Rate:
  - FLX35-6: 7.1 – 45.3 gpm
  - FLX55-6: 13.9 - 61.1 gpm
- Precipitation Rates:
  - FLX35-6: Minimum - .37"/hr; Maximum - .53"/hr
  - FLX55-6: Minimum - .43"/hr; Maximum - .60"/hr
- Pilot Valve: Selectable at 50, 65, 80 and 100 psi
- Recommended Operating Pressure Range: 65-100 psi (maximum -150 Psi and minimum - 40 psi)
- Activation types – Electric Valve-in-Head:
  - Standard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.30 A
    - Holding 0.20 A
  - Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - Nickel-Plated Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - DC Latching Solenoid (DCLS):
    - Momentary low voltage pulse
  - Integrated GDC Module w/DCLS:
    - Momentary low voltage pulse
- Trajectory: 24 positions from 7° - 30° in 1° increments

Additional Features

- FLX35-6 has eight nozzle variations (30, 31, 32, 33, 34, 35, 36 and 37)
- FLX55-6 has nine nozzle variations (51, 52, 53, 54, 55, 56, 57, 58 and 59)
- Four in-line nozzles, rotating stream pattern
- One back nozzle position
- Stator variations: FLX35-6 – 3 and FLX55-6 – 3
- Ratcheting riser
- Nozzle base clutching

Dimensions

- Body Flange Diameter:
  - FLX35-6: 6 1/2"
  - FLX55-6: 7 1/2"
- Body height:
  - FLX35-6: 10"
  - FLX55-6: 11 3/8"
- Weight:
  - FLX35-6: 2.94 lbs.
  - FLX55-6: 3.61 lbs.
- Weight–Integrated GDC
  - FLX35-6: 3.63 lbs.
  - FLX55-6: 4.30 lbs.
- Pop-up height to nozzle: 3¼"

Warranty

- Three years
- Five years when installed with Toro Swing Joints

Specifying Information—FLEX800 35-6 & FLEX800 55-6

FLXX5-XXX-X6-7

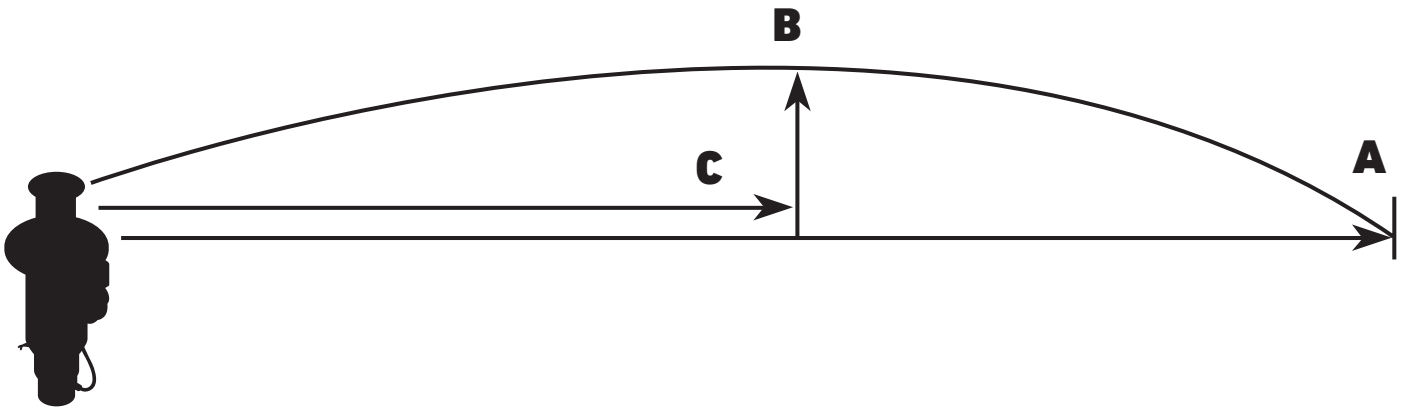
Body Inlet	*Arc*	*Nozzle*	*Pressure Regulation**	*Activation Type*	*Trajectory*	*Optional*
FLXX	**5**	**XX**	**X**	**X**	**6**	**7**
3—1" 5—1½"	5—Part-circle and Full-circle In One	**FLX35**—30, 31, 32, 33, 34, 35, 36, 37 **FLX55**—51, 52, 53, 54, 55, 56, 57, 58, 59	6—65 Psi 8—80 Psi 1—100 Psi	1—Standard Solenoid 2—Spike Guard™ Solenoid 3—Nickel-plated Spike Guard Solenoid 4—DC Latching Solenoid (DCLS) 5—Integrated GDC Module w/DCLS	6—24-position TruJectory	7—Effluent

Example: When specifying an FLX35-6 Series Sprinkler with #34 nozzle, pressure regulation at 65 Psi and Spike Guard you would specify: **FLX35-346-26**

Note: *Not all models available.*

** All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.*

FLEX800™ 35-6/55-6 SERIES GOLF ROTORS



FLEX800 35-6 TRAJECTORY PERFORMANCE

Nozzle/psi/gpm	#31 Nozzle @ 65 psi, 15.5 gpm						#32 Nozzle @ 65 psi, 20.5 gpm						#33 Nozzle @ 65 psi, 22.9 gpm					
Trajectory	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°
"A" Radius	46'	46'	50'	53'	54'	50'	46'	49'	51'	55'	63'	54'	54'	56'	59'	62'	66'	61'
"B" Spray Height	4'	4'	5'	8'	11'	13'	3'	4'	6'	9'	12'	15'	4'	5'	7'	9'	13'	15'
"C" Distance from Head	25'	25'	26'	33'	33'	33'	20'	24'	28'	34'	34'	34'	23'	28'	32'	34'	35'	35'

Nozzle/psi/gpm	#34 Nozzle @ 65 psi, 30.0 gpm						#35 Nozzle @ 65 psi, 32.4 gpm						#36 Nozzle @ 80 psi, 34.0 gpm					
Trajectory	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°
"A" Radius	58'	60'	63'	67'	74'	70'	59'	61'	64'	70'	76'	74'	64'	68'	76'	80'	84'	82'
"B" Spray Height	4'	4'	6'	11'	14'	17'	4'	5'	7'	11'	15'	17'	5'	7'	9'	14'	17'	22'
"C" Distance from Head	24'	26'	35'	39'	39'	39'	30'	32'	36'	43'	43'	43'	25'	38'	40'	45'	49'	45'

Nozzle/psi/gpm	#37 Nozzle @ 80 psi, 39.8 gpm					
Trajectory	7°	10°	15°	20°	25°	30°
"A" Radius	65'	69'	78'	82'	86'	84'
"B" Spray Height	5'	7'	9'	14'	18'	22'
"C" Distance from Head	30'	39'	41'	46'	50'	46'

FLEX800 55-6 TRAJECTORY PERFORMANCE

Nozzle/psi/gpm	#51 Nozzle @65 psi, 15.7 gpm						#52 Nozzle @65 psi, 20.8 gpm						#53 Nozzle @65 psi, 23.4 gpm					
Trajectory	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°
"A" Radius	46'	46'	51'	53'	54'	50'	49'	50'	51'	55'	64'	65'	54'	56'	59'	62'	68'	61'
"B" Spray Height	4'	4'	6'	10'	13'	15'	4'	4'	6'	9'	11'	13'	5'	6'	7'	9'	13'	15'
"C" Distance from Head	26'	27'	32'	38'	40'	41'	22'	26'	31'	35'	34'	30'	30'	33'	32'	35'	37'	37'

Nozzle/psi/gpm	#54 Nozzle @ 65 psi, 31.2 gpm						#55 Nozzle @ 65 psi, 33.8 gpm						#56 Nozzle @ 80 psi, 35.7 gpm					
Trajectory	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°
"A" Radius	58'	60'	63'	67'	74'	70'	59'	62'	66'	70'	76'	77'	72'	73'	75'	82'	85'	82'
"B" Spray Height	5'	6'	8'	10'	15'	17'	6'	6'	9'	11'	15'	17'	5'	7'	9'	14'	17'	22'
"C" Distance from Head	31'	34'	40'	41'	41'	42'	34'	36'	43'	45'	45'	45'	25'	38'	40'	45'	49'	45'

Nozzle/psi/gpm	#57 Nozzle @ 80 psi, 41.9 gpm						#58 Nozzle @ 80 psi, 46.2 gpm						#59 Nozzle @ 80 psi, 53.3 gpm					
Trajectory	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°	7°	10°	15°	20°	25°	30°
"A" Radius	72'	74'	77'	83'	89'	85'	75'	77'	83'	87'	92'	88'	77'	78'	84'	89'	96'	92'
"B" Spray Height	5'	7'	9'	14'	18'	22'	6'	7'	10'	15'	18'	22'	7'	8'	11'	16'	21'	25'
"C" Distance from Head	30'	39'	41'	46'	50'	46'	38'	40'	43'	47'	52'	48'	42'	44'	45'	47'	53'	49'

Information is for reference only. Actual results may vary.

FLEX800™ 35-6/55-6 SERIES GOLF ROTORS

FLEX800 35-6 SERIES PERFORMANCE CHART

Base Pressure	Nozzle Set 30 (White) 102-2208		Nozzle Set 31 (Yellow) 102-4587		Nozzle Set 32 (Blue) 102-4588		Nozzle Set 33 (Brown) 102-4589		Nozzle Set 34 (Orange) 102-0728		Nozzle Set 35 (Green) 102-0729		Nozzle Set 36 (Gray) 102-0730		Nozzle Set 37 (Black) 102-4261	
	Blue 102-2925	Gray 102-2910	Blue 102-2925	Gray 102-2910	Red 102-2928	Gray 102-2910	Orange 102-2926	Gray 102-2910	Orange 102-2926	Gray 102-2910	Blue 102-2925	Gray 102-2910	Blue 102-2925	Gray 102-2910	Orange 102-2926	Gray 102-2910
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	42	7.1	52	13.7	61	17.1	64	20.2	69	27.4	—	—	—	—	—	—
65	45	8.7	54	15.5	63	20.5	66	22.9	74	30.0	76	32.4	80	34.0	—	—
80	46	9.6	57	17.0	67	22.6	70	25.3	77	33.2	79	35.8	84	37.5	86	40.8
100	48	11.2	59	18.9	72	25.2	74	28.2	80	37.0	84	39.9	88	42.5	92	45.3
Stator	102-6929 Blue		102-1939 Yellow								102-1940 White					
Conversions			FLX35-6-3134								FLX35-6-3537					

FLEX800 55-6 SERIES PERFORMANCE CHART

Base Pressure	Nozzle Set 51 (Yellow) 102-4587		Nozzle Set 52 (Blue) 102-4588		Nozzle Set 53 (Brown) 102-4589		Nozzle Set 54 (Orange) 102-0728		Nozzle Set 55 (Green) 102-0729		Nozzle Set 56 (Gray) 102-0730		Nozzle Set 57 (Black) 102-4261		Nozzle Set 58 (Red) 102-4260		Nozzle Set 59 (Beige) 102-4259	
	Blue 102-2925	Gray 102-2910	Red 102-2928	Gray 102-2910	Orange 102-2926	Gray 102-2910	Orange 102-2926	Gray 102-2910	Blue 102-2925	Gray 102-2910	Blue 102-2925	Gray 102-2910	Orange 102-2926	Gray 102-2910	Blue 102-2925	Gray 102-2910	Blue 102-2925	Gray 102-2910
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	52	13.9	62	17.4	66	20.7	69	28.6	—	—	—	—	—	—	—	—	—	—
65	54	15.7	64	20.8	68	23.4	74	31.2	76	33.8	81	35.7	—	—	—	—	—	—
80	57	17.2	68	22.9	72	25.8	77	34.4	79	37.2	85	39.4	89	43.6	92	47.5	96	57.0
100	59	19.1	73	25.5	76	28.7	80	38.2	84	41.3	89	43.7	94	48.5	95	51.1	100	61.1
Stator	102-1939 Yellow								102-1940 White								102-1941	
Conver.	FLX55-6-5154								FLX55-6-5558								FLX55-6-59	

Not recommended at these pressures. Radius shown in feet.

Toro recommends the use of a 11/4" swing joint at flows over 25-Gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1. Actual site conditions must be considered when selecting the appropriate nozzle. All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

Main Nozzle Adapter
A wide assortment of intermediate and inner nozzles for use in the main nozzle adapter and back nozzle position provide unmatched nozzle flexibility.

Note: Main Nozzle Adapter Data Located on Pages 54. Back Nozzle Data Located on Page 59.

FLEX800™ 35/55 SERIES GOLF ROTORS

NEW!

The New FLEX800 35/55 Series features a dual trajectory main nozzle that provides exceptional nozzle performance at the 25° standard angle position and great performance in windy applications at the 15° low angle position. And the part/full circle drive allows you to adjust the area of coverage to match your seasonal watering needs or meet water rationing mandates in seconds with no additional parts required.

FEATURES & BENEFITS

Industry's Largest Nozzle Selection

Nozzles from 43' to 92' radius plus a wide assortment of back nozzles lets you put the precise amount of water exactly where you need it. All nozzles threaded in from front.

Stainless Steel Valve Seat

Eliminates body damage from rocks and debris. This in-destructible stainless steel seat is molded to the body and virtually eliminates body replacements due to seat damage.

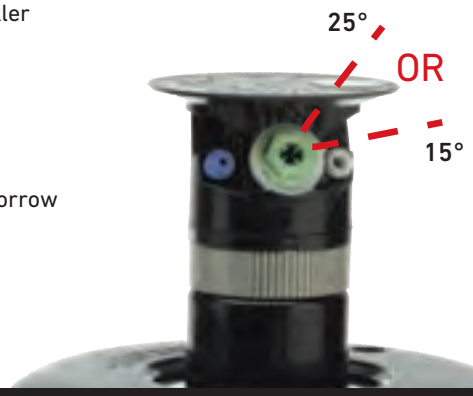
Optional Radius Reduction Screw

Allows for fine tuning the radius to exactly the distance you need. In combination with main nozzle sizing and trajectory adjustment the radius reduction screw can effectively reduce the sprinkler throw down to 30'.

True Part and Full-Circle in One (40° - 330° part circle)

These sprinklers can be full circle today and part circle tomorrow allowing you to adjust the area of coverage to match your seasonal needs or meet water rationing mandates.

FLX35 FLX55



Dual Trajectory
The 25° setting provides maximum distance of throw and the 15° setting provides improved wind performance, radius reduction and obstacle avoidance.

FLX35 CONVERSION UPGRADES

MODELS	DESCRIPTION
• FLX35-3134	FLX35 w/31–34 Nozzles (#3 Nozzle Installed)
• FLX35-3537	FLX35 w/35–37 Nozzles (#5 Nozzle Installed)
• FLX35-3134E	FLX35 w/31–34 Nozzles (#3 Nozzle Installed), Effluent
• FLX35-3537E	FLX35 w/35–37 Nozzles (#5 Nozzle Installed), Effluent

FLX55 CONVERSION UPGRADES — RIBBED BODY

MODELS	DESCRIPTION
• FLX55-5154	FLX55 w/51–54 Nozzles (#3 Nozzle Installed)
• FLX55-5558	FLX55 w/55–58 Nozzles (#5 Nozzle Installed)
• FLX55-59	FLX55 w/59 Nozzle
• FLX55-5154E	FLX55 w/51–54 Nozzles (#3 Nozzle Installed), Effluent
• FLX55-5558E	FLX55 w/55–58 Nozzles (#5 Nozzle Installed), Effluent
• FLX55-59E	FLX55 w/59 Nozzle, Effluent
• 102-5011	690 Adapter allows you to upgrade any 690 with FLX55 conversions
• 102-0950	Required to Upgrade all 650, 670, 680, 750, and 780 Series Sprinklers

FLX55 CONVERSION UPGRADES — RIBLESS BODY

MODELS	DESCRIPTION
• FLX55-5154R	FLX55 w/51–54 Nozzles (#3 Nozzle Installed)
• FLX55-5558R	FLX55 w/55–58 Nozzles (#5 Nozzle Installed)
• FLX55-59R	FLX55 w/59 Nozzle
• FLX55-5154RE	FLX55 w/51–54 Nozzles (#3 Nozzle Installed), Effluent
• FLX55-5558RE	FLX55 w/55–58 Nozzles (#5 Nozzle Installed), Effluent
• FLX55-59RE	FLX55 w/59 Nozzle, Effluent

SPECIFICATIONS

Operational

- Inlet:
  - FLX35: 1" ACME
  - FLX55: 1½" ACME
- Radius:
  - FLX35: 43' – 83'
  - FLX55: 55' – 92'
- Flow Rate:
  - FLX35: 8.2 – 47.3 gpm
  - FLX55: 14.1 – 61.3 gpm
- Precipitation Rates:
  - FLX35: Minimum - .41"/hr; Maximum - .45"/hr
  - FLX55: Minimum - .46"/hr; Maximum - .58"/hr
- Pilot Valve: Selectable at 50, 65, 80 and 100 psi
- Recommended Operating Pressure Range: 65-100 psi (maximum – 150 Psi and minimum – 40 psi)
- Activation types – Electric Valve-in-Head:
  - Standard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.30 A
    - Holding 0.20 A
  - Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - Nickel-Plated Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - DC Latching Solenoid (DCLS):
    - Momentary low voltage pulse
  - Integrated GDC Module w/DCLS:
    - Momentary low voltage pulse

Additional Features

- FLX35 has eight nozzle variations (30, 31, 32, 33, 34, 35, 36 & 37)
- FLX55 has nine nozzle variations (51, 52, 53, 54, 55, 56, 57, 58 & 59)
- Three in-line nozzles, rotating stream pattern
- Two back nozzle positions
- Stator variations: 3
- Radius reduction screw 363-4839 for fine tuning
- Ratcheting riser
- Nozzle base clutching

Dimensions

- Body Flange Diameter:
  - FLX35: 6 1/2"
  - FLX55: 7 1/2"
- Body height:
  - FLX35: 10"
  - FLX55: 11 3/8"
- Weight:
  - FLX35: 2.89 lbs.
  - FLX55: 3.57 lbs.
- Weight–Integrated GDC
  - FLX35: 3.58 lbs.
  - FLX55: 4.26 lbs.
- Pop-up height to nozzle: 3¼"

Warranty

- Three years
- Five years when installed with Toro Swing Joints

Specifying Information—FLEX800 35 & FLEX800 55

FLXX5-XXX-X-7

Body Inlet	*Arc*	*Nozzle*	*Pressure Regulation**	*Activation Type*	*Optional*
FLXX	**5**	**XX**	**X**	**X**	**7**
3—1" 5—1½"	5—Part-circle and Full-circle In One	**FLX35**—30, 31, 32, 33, 34, 35, 36, 37 **FLX55**—51, 52, 53, 54, 55, 56, 57, 58, 59	6—65 Psi 8—80 Psi 1—100 Psi	1—Standard Solenoid 2—Spike Guard™ Solenoid 3—Nickel-plated Spike Guard Solenoid 4—DC Latching Solenoid (DCLS) 5—Integrated GDC Module w/DCLS	7—Effluent

Example: When specifying an FLX35-6 Series Sprinkler with #34 nozzle, pressure regulation at 65 Psi and Spike Guard you would specify: **FLX35-346-26**

Note: Not all models available.

** All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.*

FLEX800™ 35/55 SERIES GOLF ROTORS

FLEX800 35 SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 30 (White Plug)		Nozzle Set 31 (Yellow)		Nozzle Set 32 (Blue)		Nozzle Set 33 (Brown)		Nozzle Set 34 (Orange)		Nozzle Set 35 (Green)		Nozzle Set 36 (Gray)		Nozzle Set 37 (Black)	
	102-2208		102-6906		102-0726		102-6907		102-0728		102-6955		102-6935		102-6936	
	Yellow	Biege	Yellow	Brown	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green
	102-5670	102-6942	102-5670	102-5671	102-5670	102-6884	102-5670	102-6884	102-5670	102-6884	102-5670	102-6885	102-6531	102-6885	102-6531	102-6885
Back Nozzle Positions	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug
	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	43	8.2	53	13.8	56	18.3	61	21.7	65	25.3	—	—	—	—	—	—
65	45	10.0	53	15.5	59	20.5	64	24.4	68	28.2	72	34.1	—	—	—	—
80	46	11.5	57	17.3	62	22.7	67	27.1	71	31.1	75	37.8	78	40.3	80	44.0
100	47	13.4	59	19.1	65	24.9	70	29.8	74	34.1	79	40.9	81	43.8	83	47.3

FLEX800 35 SERIES PERFORMANCE CHART—15°

psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	43	8.2	52	13.6	58	18.1	61	21.5	62	25.6	—	—	—	—	—	—
65	45	10.0	54	15.3	60	20.3	64	24.2	65	27.3	69	33.1	—	—	—	—
80	46	11.5	58	17.2	64	22.6	69	26.8	69	30.2	75	36.8	76	39.7	76	42.9
100	47	13.4	60	19.0	66	24.7	71	29.5	72	32.9	78	39.5	82	42.6	82	46.1
Stator	102-6929 Blue		102-1939 Yellow								102-1940 White					
Conversions			FLX35-3134								FLX35-3537					

Not recommended at these pressures. Radius shown in feet.

Toro recommends the use of a 1¼" swing joint at flows over 25-Gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1. Actual site conditions must be considered when selecting the appropriate nozzle.

All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

FLEX800 35 NOZZLE APEX

Pressure	Nozzle	Apex at 15˚	Apex at 25°
65 psi	31	6' @ 51'	13' @ 54'
	32	6' @ 51'	11' @ 64'
	33	7' @ 59'	13' @ 68'
	34	8' @ 63'	15' @ 74'
	35	9' @ 66'	15' @ 76'
80 psi	36	8' @ 75'	18' @ 83'
	37	9' @ 74'	19' @ 82'

FLEX800 55 SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 51		Nozzle Set 52		Nozzle Set 53		Nozzle Set 54		Nozzle Set 55		Nozzle Set 56		Nozzle Set 57		Nozzle Set 58		Nozzle Set 59	
	 (Yellow)		 (Blue)		 (Brown)		 (Orange)		 (Green)		 (Gray)		 (Black)		 (Red)		 (Beige)	
	102-6906		102-0726		102-6907		102-0728		102-6955		102-6935		102-6936		102-6909		102-4259	
																		
	Yellow	Brown	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green
	102-5670	102-5671	102-5670	102-6884	102-5670	102-6884	102-5670	102-6884	102-5670	102-6885	102-6531	102-6885	102-6531	102-6885	102-6531	102-6885	102-6531	102-6885
Back Nozzle Positions																		
	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug
	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	55	14.1	57	18.5	62	22.3	66	25.8	—	—	—	—	—	—	—	—	—	—
65	57	15.8	60	20.9	65	25.1	69	28.7	73	35.9	—	—	—	—	—	—	—	—
80	59	17.5	61	23.1	68	27.8	72	31.7	76	39.7	80	43.1	83	48.2	85	50.0	89	57.5
100	61	19.3	63	25.3	71	30.3	75	34.5	80	43.5	83	49.0	88	51.5	90	53.9	92	61.3

FLEX800 55 SERIES PERFORMANCE CHART—15°

psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	55	14.0	59	16.5	62	22.2	63	25.6	—	—	—	—	—	—	—	—	—	—
65	56	15.6	62	20.7	65	25.0	66	28.5	75	35.3	—	—	—	—	—	—	—	—
80	59	17.4	66	23.0	69	27.7	70	31.5	78	39.0	78	42.4	79	46.9	79	49.5	82	57.2
100	60	19.2	68	25.1	71	30.2	72	34.3	80	41.9	81	47.2	83	52.1	83	53.4	85	60.8
Stator	102-1939 Yellow								102-1940 White									
Conver-sions	FLX55-5154								FLX55-5558									

Not recommended at these pressures. Radius shown in feet.
Toro recommends the use of a 1¼" swing joint at flows over 25-Gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1.
Actual site conditions must be considered when selecting the appropriate nozzle.
All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

FLEX800 55 NOZZLE APEX

Pressure	Nozzle	Apex at 15˚	Apex at 25°
65 psi	51	6' @ 51'	13' @ 54'
	52	6' @ 51'	11' @ 64'
	53	7' @ 59'	13' @ 68'
	54	8' @ 63'	15' @ 74'
	55	9' @ 66'	15' @ 76'
80 psi	56	8' @ 75'	18' @ 83'
	57	9' @ 74'	19' @ 82'
	58	10' @ 82'	18' @ 87'
	59	11' @ 81'	21' @ 91'

Note: Main Nozzle Adapter Data Located on Pages 54.
Back Nozzle Data Located on Page 59.

FLEX800™ 34/54 SERIES GOLF ROTORS

NEW!

The New FLEX800 34/54 Series with dual trajectory main nozzle provides exceptional nozzle performance at the 25° standard angle position and great performance in windy applications at the 15° low angle position. And the consistency of the constant velocity full circle drive ensures even water application across the coverage area every time you water.

FEATURES & BENEFITS

Industry's Largest Nozzle Selection

Nozzles from 52' to 99' radius plus a wide assortment of back nozzles lets you put the precise amount of water exactly where you need it. All nozzles threaded in from front.

Stainless Steel Valve Seat

Eliminates body damage from rocks and debris. This in-destructible stainless steel seat is molded to the body and virtually eliminates body replacements due to seat damage.

Optional Radius Reduction Screw

Allows for fine tuning the radius to exactly the distance you need. In combination with main nozzle sizing and trajectory adjustment the radius reduction screw can effectively reduce the sprinkler throw down to 30'.

Constant Velocity Full Circle Drive

Ensures consistent rotation speeds when matched with station run times for even water application across the coverage area every time you water.

FLX34 FLX54

Dual Trajectory
The 25° setting provides maximum distance of throw and the 15° setting provides improved wind performance, radius reduction and obstacle avoidance.

FLX34 CONVERSION UPGRADES

MODELS	DESCRIPTION
• FLX34-3134	FLX34 w/31–34 Nozzles (#3 Nozzle Installed)
• FLX34-3537	FLX34 w/35–37 Nozzles (#5 Nozzle Installed)
• FLX34-3134E	FLX34 w/31–34 Nozzles (#3 Nozzle Installed), Effluent
• FLX34-3537E	FLX34 w/35–37 Nozzles (#5 Nozzle Installed), Effluent

FLX54 CONVERSION UPGRADES

MODELS	DESCRIPTION
• FLX54-5154	FLX54 w/51–54 Nozzles (#3 Nozzle Installed)
• FLX54-5558	FLX54 w/55–58 Nozzles (#5 Nozzle Installed)
• FLX54-59	FLX54 w/59 Nozzle
• FLX54-5154E	FLX54 w/51–54 Nozzles (#3 Nozzle Installed), Effluent
• FLX54-5558E	FLX54 w/55–58 Nozzles (#5 Nozzle Installed), Effluent
• FLX54-59E	FLX55 w/59 Nozzle, Effluent
• 102-5011	690 Adapter allows you to upgrade any 690 with FLX54 conversions
• 102-0950	Required to Upgrade all 1.5" Series Sprinklers (650, 670, 680, 750, and 780)

SPECIFICATIONS

Operational

- Inlet:
  - FLX34: 1" ACME
  - FLX54: 1½" ACME
- Radius:
  - FLX34: 52' – 91'
  - FLX54: 52' – 99'
- Flow Rate:
  - FLX34: 13.0 – 46.9 gpm
  - FLX54: 13.2 - 61.8 gpm
- Precipitation Rates:
  - FLX34: Minimum - .33"/hr; Maximum - .55"/hr
  - FLX54: Minimum - .33"/hr; Maximum - .61"/hr
- Pilot Valve: Selectable at 50, 65, 80 and 100 psi
- Recommended Operating Pressure Range: 65-100 psi (maximum-150 psi and minimum-40 psi)
- Activation types – Electric Valve-in-Head:
  - Standard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.30 A
    - Holding 0.20 A
  - Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - Nickel-Plated Spike Guard Solenoid:
    - 24 VAC, 50/60 Hz
    - Inrush: 0.12 A
    - Holding 0.10 A
  - DC Latching Solenoid (DCLS):
    - Momentary low voltage pulse
  - Integrated GDC Module w/DCLS:
    - Momentary low voltage pulse
- Trajectory: 25° or 15°

Dimensions

- Body Flange Diameter:
  - FLX34: 6 1/2"
  - FLX54: 7 1/2"
- Body height:
  - FLX34: 10"
  - FLX54: 11 3/8"
- Weight:
  - FLX34: 2.87 lbs.
  - FLX54: 3.55 lbs.
- Weight–Integrated GDC
  - FLX34: 3.56 lbs.
  - FLX54: 4.24 lbs.
- Pop-up height to nozzle: 3¼"

Warranty

- Three years
- Five years when installed with Toro Swing Joints

Specifying Information—FLEX800 34 & FLEX800 54

FLXX4-XXX-X-7					
Body Inlet	*Arc*	*Nozzle*	*Pressure Regulation**	*Activation Type*	*Optional*
FLXX	4	XX	X	X	7
3—1" 5—1½"	4—Part-circle and Full-circle In One	**FLX34**—30, 31, 32, 33, 34, 35, 36, 37 **FLX54**—51, 52, 53, 54, 55, 56, 57, 58, 59	6—65 Psi 8—80 Psi 1—100 Psi	1—Standard Solenoid 2—Spike Guard™ Solenoid 3—Nickel-plated Spike Guard Solenoid 4—DC Latching Solenoid (DCLS) 5—Integrated GDC Module w/DCLS	7—Effluent
Example: When specifying an FLX34 Series Sprinkler with #34 nozzle, pressure regulation at 65 Psi and Spike Guard you would specify: **FLX34–346–2**					

Note: *Not all models available.*

** All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.*

FLEX800™ 34/54 SERIES GOLF ROTORS

FLEX800 34 SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 31 (Yellow) 102-0725		Nozzle Set 32 (Blue) 102-7001		Nozzle Set 33 (Brown) 102-0727		Nozzle Set 34 (Orange) 102-7002		Nozzle Set 35 (Green) 102-6908		Nozzle Set 36 (Gray) 102-0730		Nozzle Set 37 (Black) 102-4261	
	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335	Red Plug 102-4335
Back Nozzle Positions	Yellow 102-6937	Blue 102-2925	Yellow 102-6937	Orange 102-2926	Yellow 102-6937	Red 102-2928	Yellow 102-6937	Beige 102-2929	Yellow 102-6937	Beige 102-2929	Yellow 102-6937	Red 102-6944	Yellow 102-6937	Gray 102-6945
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	57	13.0	58	15.5	64	21.9	68	24.4	—	—	—	—	—	—
65	58	14.6	60	18.0	68	24.4	72	28.1	76	32.2	—	—	—	—
80	60	16.2	63	20.5	72	26.9	76	31.1	80	35.6	83	38.2	85	41.5
100	62	17.9	66	23.4	75	29.8	79	34.9	84	39.3	88	43.4	91	46.9

FLEX800 34 SERIES PERFORMANCE CHART—15°

psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	52	12.9	53	15.6	60	21.7	62	25.5	—	—	—	—	—	—
65	53	14.4	54	17.1	61	24.2	64	28.0	67	32.1	—	—	—	—
80	56	16.0	57	19.0	65	26.6	69	31.0	73	35.5	76	38.0	77	41.3
100	57	17.5	59	20.5	67	29.5	71	33.9	75	38.4	80	43.1	81	46.8
Stator	102-6929 Blue								102-1940 White					
Conversions	FLX34-3134								FLX34-3537					

Not recommended at these pressures. Radius shown in feet.
Toro recommends the use of a 11/4" swing joint at flows over 25-Gpm (95-LPM).
Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1.
Actual site conditions must be considered when selecting the appropriate nozzle.
All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

FLEX800 34 NOZZLE APEX

Pressure	Nozzle	Apex at 15˚	Apex at 25°
65 psi	31	6' @ 51'	13' @ 54'
	32	6' @ 51'	11' @ 64'
	33	7' @ 59'	13' @ 68'
	34	8' @ 63'	15' @ 74'
	35	9' @ 66'	15' @ 76'
80 psi	36	8' @ 75'	18' @ 83'
	37	9' @ 74'	19' @ 82'

FLEX800 54 SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 51 (Yellow)		Nozzle Set 52 (Blue)		Nozzle Set 53 (Brown)		Nozzle Set 54 (Orange)		Nozzle Set 55 (Green)		Nozzle Set 56 (Gray)		Nozzle Set 57 (Black)		Nozzle Set 58 (Red)		Nozzle Set 59 (Beige)	
	102-0725		102-7001		102-0727		102-7002		102-6908		102-0730		102-4261		102-4260		102-4259	
	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Brown	Red Plug	Brown	Red Plug	Red Plug
	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-6883	102-4335	102-6883	102-4335	102-4335
Back Nozzle Positions	Yellow	Blue	Yellow	Orange	Yellow	Red	Yellow	Beige	Yellow	Beige	Yellow	Red	Yellow	Gray	Yellow	Gray	Yellow	Gray
	102-6937	102-2925	102-6937	102-2926	102-6937	102-2928	102-6937	102-2929	102-6937	102-2929	102-6937	102-6944	102-6937	102-6945	102-6937	102-6945	102-6937	102-6945
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	58	13.2	59	15.7	64	22.0	70	26.2	—	—	—	—	—	—	—	—	—	—
65	60	14.8	61	17.5	68	24.8	74	29.3	79	34.2	—	—	—	—	—	—	—	—
80	61	16.4	64	20.0	72	27.6	78	32.6	83	38.0	85	40.7	87	44.9	91	50.2	96	55.6
100	63	18.1	67	23.6	75	30.4	81	36.7	87	42.5	90	45.8	93	50.2	95	55.4	99	61.8

FLEX800 54 SERIES PERFORMANCE CHART—15°

psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	52	13.2	53	15.8	61	22.0	65	26.0	—	—	—	—	—	—	—	—	—	—
65	53	14.8	54	17.4	63	24.8	67	29.2	69	34.1	—	—	—	—	—	—	—	—
80	56	16.4	58	19.4	68	27.6	72	32.5	75	37.8	79	40.4	81	44.6	85	49.9	87	55.3
100	58	18.1	60	21.1	71	30.4	75	36.4	79	42.3	84	45.5	87	49.9	89	55.1	94	61.5
Stator	102-6929 Blue								102-1940 White								102-1941 White	
Conversions	FLX54-5154								FLX54-5558								FLX54-59	

Not recommended at these pressures. Radius shown in feet.
Toro recommends the use of a 11/4" swing joint at flows over 25-Gpm (95-LPM).
Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1.
Actual site conditions must be considered when selecting the appropriate nozzle.
All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

FLEX800 54 NOZZLE APEX

Pressure	Nozzle	Apex at 15˚	Apex at 25°
65 psi	51	6' @ 51'	13' @ 54'
	52	6' @ 51'	11' @ 64'
	53	7' @ 59'	13' @ 68'
	54	8' @ 63'	15' @ 74'
	55	9' @ 66'	15' @ 76'
80 psi	56	8' @ 75'	18' @ 83'
	57	9' @ 74'	19' @ 82'
	58	10' @ 82'	18' @ 87'
	59	11' @ 81'	21' @ 91'

Main Nozzle Adapter
A wide assortment of intermediate and inner nozzles for use in the main nozzle adapter and back nozzle position provide unmatched nozzle flexibility.

Note: Main Nozzle Adapter Data Located on Pages 54. Back Nozzle Data Located on Page 59.

FLEX800™ 35-6B/34B/35B SERIES GOLF ROTORS

NEW!

The FLEX800™ B Series golf sprinkler family brings you all the great features and performance of the FLEX800 35-6, 34 and 35 Series sprinklers in a more economical body package specifically designed for block systems. With its rugged golf body design, small exposed surface diameter, flanged body for stability and check valve these sprinklers are perfect for every golf application.

FEATURES & BENEFITS

Industry's Largest Nozzle Selection

Nozzles from 25' to 95' radius, plus a wide assortment of intermediate and inner nozzles, provide unmatched flexibility allowing you to put the precise amount of water exactly where you need it. All nozzles are color-coded, debris tolerant, and thread in from front.

True Part and Full-Circle in One (40° - 330° part circle)

These sprinklers can be full circle or part circle allowing you to adjust the area of coverage to match your seasonal needs or meet water rationing mandates.

Flanged Cap Installs Below Grade

Stabilizes the body position and maintains optimum nozzle performance.

Small Exposed Diameter

Minimizes the appearance of the sprinkler to maximize the beauty of the course. Perfect for high traffic areas like tees, greens and surrounds.

FLX35-6B

FLX34B

FLX35B

FLX35-6B FLX34B and FLX35B

Nozzle Trajectory Provides Unmatched Performance
FLX35-6B with TruJectory™ adjustment from 7°-30° in 1° increments and FLX35/FLX34 models with dual trajectory settings of 25° or 15° provide improved wind performance, obstacle avoidance and radius adjustment.

Main Nozzle Adapter
A wide assortment of intermediate and inner nozzles for use in the main nozzle adapter and back nozzle position provide unmatched nozzle flexibility.

SPECIFICATIONS

Operational

- Inlet: 1" NPT, BSP or ACME
- Radius:
  - FLX35-6B: 42' – 95'
  - FLX35B: 43' – 90'
  - FLX34B: 57' – 95'
- Flow Rate:
  - FLX35-6B : 7.1 – 52.5 gpm
  - FLX35B: 8.2 – 56.3 gpm
  - FLX34B : 13.0 – 55.4 gpm
- Precipitation Rates:
  - FLX35-6B : Minimum - .34"/hr; Maximum - .56"/hr
  - FLX35B: Minimum - .37"/hr; Maximum - .67"/hr
  - FLX34B : Minimum - .33"/hr; Maximum - .59"/hr
- Recommended Operating Pressure Range: 50-100 psi (maximum – 150 psi and minimum – 40 psi)
- Check-O-Matic models maintain up to 5' elevation change°

Nozzle Selection

- Nozzle variations
  - FLX35-6B - Nine variations (30, 31, 32, 33, 34, 35, 36, 37 & 38)
  - FLX34B - Nine variations (30, 31, 32, 33, 34, 35, 36, 37 & 38)
  - FLX54B – Eight variations (31, 32, 33, 34, 35, 36, 37 & 38)
- Back nozzle capability on part circle models standard
  - FLX35-6B – one position available
  - FLX35B – two positions available
  - FLX34B – two additional front nozzle positions
- Main-less capability for short radius applications
- Stator variations - 2
- Radius reduction screw for fine tuning the radius (363-4839). Optional on: FLX35B, FLX34B and not available on FLX35-6B models
- Ratcheting riser – Part circle models
- Nozzle base clutching – Part circle models

Dimensions

- Body diameter: 6"
- Body height: 8.5"
- Weight:
  - FLX34B – 1.98 lbs.
  - FLX35B – 2.00 lbs.
  - FLX35-6B – 2.05 lbs.
- Pop-up height to nozzle: 3¼"

Warranty

- Three years
- Five years when installed with Toro Swing Joints

Specifying Information—FLEX800 B Series

FLX3XB-X2-XXXXE						
Series	***Arc***	***System***	***Thread Type***	***Valve Type***	***Nozzle***	***Optional***
FLX3	**X**	**B**	**X**	**2**	**XXXX**	**E**
FLX3 – FLEX800 B Series	4—Full-Circle 5—Part-/Full-Circle 5-6—Part-/Full-Circle with TruJectory	**B**—Block	0—NPT 4—ACME 5—BSP	Check-O-Matic	3134— Includes nozzles #31, 32, 33 & 34 3538— Includes nozzles #35, 36, 37 & 38	E—Effluent Model
Example: When specifying a FLEX800 B Series Sprinkler with full circle – NPT threads #34 nozzles, you would specify: **FLX34B-02-3134**						

FLEX800™ 35-6B/34B/35B SERIES GOLF ROTORS

FLEX800 35-6B SERIES PERFORMANCE CHART—25°

Base Pressure	Nozzle Set 30 (White) 102-2208		Nozzle Set 31 (Yellow) 102-4587		Nozzle Set 32 (Blue) 102-4588		Nozzle Set 33 (Brown) 102-4589		Nozzle Set 34 (Orange) 102-0728		Nozzle Set 35 (Green) 102-0729		Nozzle Set 36 (Gray) 102-0730		Nozzle Set 37 (Black) 102-4261		Nozzle Set 38 (Red) 102-6909	
	Blue	Gray	Blue	Gray	Red	Gray	Orange	Gray	Orange	Gray	Blue	Gray	Blue	Gray	Orange	Gray	Blue	Gray
	102-2925	102-2910	102-2925	102-2910	102-2928	102-2910	102-2926	102-2910	102-2926	102-2910	102-2925	102-2910	102-2925	102-2910	102-2926	102-2910	102-2925	102-2910
	Back Nozzle 102-4335 Red Plug																	
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	42	7.1	52	14.0	58	18.0	—	—	—	—	—	—	—	—	—	—	—	—
60	43	7.9	54	15.2	60	19.5	66	21.9	—	—	—	—	—	—	—	—	—	—
70	45	8.8	55	16.4	63	21.0	68	23.6	74	32.7	77	35.2	—	—	—	—	—	—
80	46	9.6	57	17.4	65	22.6	70	25.3	77	35.1	79	37.7	84	39.6	86	43.4	90	47.5
90	47	10.4	58	18.5	68	23.9	72	26.8	79	37.0	82	9.9	86	41.9	88	45.9	93	50.0
100	48	11.2	59	19.4	70	25.2	74	28.2	80	38.9	84	41.8	88	44.1	90	48.4	95	52.5
Stator	102-6929 Blue		102-1939 Yellow								102-1940 White							
Conversions			INF35-6-3134								INF35-6-3537							

FLEX800 B Series with mainless short radius nozzle configuration.

FLEX800 35B SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 30 (White Plug) 102-2208		Nozzle Set 31 (Yellow) 102-6906		Nozzle Set 32 (Blue) 102-0726		Nozzle Set 33 (Brown) 102-6907		Nozzle Set 34 (Orange) 102-0728		Nozzle Set 35 (Green) 102-6955		Nozzle Set 36 (Gray) 102-6935		Nozzle Set 37 (Black) 102-6936		Nozzle Set 38 (Red) 102-6909	
	Yellow	Biege	Yellow	Brown	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green	Green	Green	Green	Green	Green
	102-5670	102-6942	102-5670	102-5671	102-5670	102-6884	102-5670	102-6884	102-5670	102-6884	102-5670	102-6885	102-6531	102-6885	102-6531	102-6885	102-6531	102-6885
	Back Nozzles 102-4335 Red Plug																	
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	43	8.2	55	13.6	56	18.3	—	—	—	—	—	—	—	—	—	—	—	—
60	44	9.3	56	15.0	58	20.1	63	24.2	—	—	—	—	—	—	—	—	—	—
70	45	10.4	58	16.2	60	21.8	65	26.3	69	30.0	73	37.0	—	—	—	—	—	—
80	46	11.5	59	17.3	62	23.3	67	28.0	71	32.1	75	39.6	78	42.9	80	48.6	85	50.6
90	47	12.5	60	18.4	64	24.7	69	29.8	73	34.2	77	42.0	80	45.4	82	51.5	88	53.6
100	47	13.4	61	19.3	65	26.0	70	31.4	74	35.9	79	44.2	81	48.8	83	54.2	90	56.3
Stator	102-6929 Blue		102-1939 Yellow								102-1940 White							
Conversions			FLX35-3134								FLX35-3537							

FLEX800 34B SERIES PERFORMANCE CHART—25°

Front Nozzle Positions	Nozzle Set 31 (Yellow) 102-0725		Nozzle Set 32 (Blue) 102-7001		Nozzle Set 33 (Brown) 102-0727		Nozzle Set 34 (Orange) 102-7002		Nozzle Set 35 (Green) 102-6908		Nozzle Set 36 (Gray) 102-0730		Nozzle Set 37 (Black) 102-4261		Nozzle Set 38 (Red) 102-4260	
	Front Nozzles 102-4335 Red Plug															
Back Nozzle Positions	Yellow	Blue	Yellow	Orange	Yellow	Red	Yellow	Beige	Yellow	Beige	Yellow	Red	Yellow	Gray	Yellow	Gray
	102-6937	102-2925	102-6937	102-2926	102-6937	102-2928	102-6937	102-2929	102-6937	102-2929	102-6937	102-6944	102-6937	102-6945	102-6937	102-6945
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
50	57	13.0	58	15.5	—	—	—	—	—	—	—	—	—	—	—	—
60	58	14.1	60	17.2	67	23.6	—	—	—	—	—	—	—	—	—	—
70	59	15.5	61	18.2	69	26.2	73	30.0	78	35.7	—	—	—	—	—	—
80	60	16.2	63	20.5	72	27.9	76	32.1	80	38.2	83	40.9	85	42.1	91	50.2
90	61	17.5	65	22.0	74	29.7	78	34.1	82	40.5	86	43.4	88	44.5	93	52.8
100	62	18.8	66	23.4	75	31.4	79	36.0	84	42.7	88	45.8	91	46.9	95	55.4
Stator	102-6929 Blue								102-1940 White							
Conversions	FLX34-3134								FLX34-3537							

Not recommended at these pressures. Radius shown in feet.

Toro recommends the use of a 11/4" swing joint at flows over 25-Gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1. Actual site conditions must be considered when selecting the appropriate nozzle. All sprinklers are equipped with the selectable pilot valve that allows settings at 50, 65, 80 and 100 psi.

Note: Main Nozzle Adapter Data Located on Pages 54.
Back Nozzle Data Located on Page 59.

Performance Charts

INTERMEDIATE NOZZLE PERFORMANCE CHARTS

102-2929 Beige	Trajectory		30°		25°		20°		15°		10°		7°	
Pressure		Flow		Radius		Radius		Radius		Radius		Radius		Radius	
Psi	BAR	Gpm	lpm	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
50	3.4	8.1	30.7	53	17.4	52	17.1	50	16.4	48	15.7	45	14.8	42	13.8
60	4.1	8.9	33.7	57	18.7	56	18.4	53	17.4	51	16.7	47	15.4	45	14.8
65	4.5	9.3	35.2	58	19.0	56	18.4	54	17.7	51	16.7	49	16.1	46	15.1
70	4.8	9.6	36.3	59	19.4	57	18.7	56	18.4	53	17.4	50	16.4	48	15.7
80	5.5	10.3	39.0	61	20.0	60	19.7	58	19.0	56	18.4	53	17.4	50	16.4
90	6.2	10.9	41.3	63	20.7	61	20.0	59	19.4	57	18.7	54	17.7	51	16.7
100	6.9	11.5	43.5	65	21.3	63	20.7	60	19.7	58	19.0	55	18.0	51	16.7

102-2928 Red	Trajectory		30°		25°		20°		15°		10°		7°	
Pressure		Flow		Radius		Radius		Radius		Radius		Radius		Radius	
Psi	BAR	Gpm	lpm	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
50	3.4	6.3	23.8	53	17.4	51	16.7	48	15.7	46	15.1	43	14.1	40	13.1
60	4.1	7.0	26.5	55	18.0	53	17.4	50	16.4	48	15.7	45	14.8	42	13.8
65	4.5	7.2	27.3	56	18.4	54	17.7	52	17.1	49	16.1	47	15.4	44	14.4
70	4.8	7.5	28.4	57	18.7	55	18.0	53	17.4	51	16.7	49	16.1	46	15.1
80	5.5	8.0	30.3	59	19.4	58	19.0	56	18.4	54	17.7	52	17.1	49	16.1
90	6.2	8.5	32.2	60	19.7	58	19.0	57	18.7	55	18.0	53	17.4	50	16.4
100	6.9	9.0	34.1	61	20.0	59	19.4	57	18.7	55	18.0	53	17.4	50	16.4

102-2927 Gray	Trajectory		30°		25°		20°		15°		10°		7°	
Pressure		Flow		Radius		Radius		Radius		Radius		Radius		Radius	
Psi	BAR	Gpm	lpm	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
50	3.4	5.0	18.9	50	16.4	48	15.7	46	15.1	44	14.4	41	13.5	38	12.5
60	4.1	5.5	20.8	52	17.1	50	16.4	48	15.7	46	15.1	43	14.1	40	13.1
65	4.5	5.7	21.6	53	17.4	51	16.7	49	16.1	46	15.1	44	14.4	41	13.5
70	4.8	5.9	22.3	53	17.4	51	16.7	49	16.1	47	15.4	45	14.8	42	13.8
80	5.5	6.3	23.8	54	17.7	52	17.1	50	16.4	48	15.7	46	15.1	43	14.1
90	6.2	6.7	25.4	55	18.0	53	17.4	52	17.1	50	16.4	48	15.7	45	14.8
100	6.9	7.1	26.9	55	18.0	54	17.7	53	17.4	52	17.1	50	16.4	46	15.1

102-2926 Orange	Trajectory		30°		25°		20°		15°		10°		7°	
Pressure		Flow		Radius		Radius		Radius		Radius		Radius		Radius	
Psi	BAR	Gpm	lpm	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
50	3.4	4.3	16.3	48	15.7	46	15.1	44	14.4	42	13.8	39	12.8	35	11.5
60	4.1	4.7	17.8	50	16.4	48	15.7	46	15.1	44	14.4	41	13.5	38	12.5
65	4.5	4.9	18.5	51	16.7	49	16.1	47	15.4	45	14.8	42	13.8	39	12.8
70	4.8	5.1	19.3	51	16.7	50	16.4	48	15.7	46	15.1	43	14.1	40	13.1
80	5.5	5.4	20.4	52	17.1	51	16.7	50	16.4	48	15.7	45	14.8	42	13.8
90	6.2	5.8	22.0	53	17.4	52	17.1	51	16.7	49	16.1	47	15.4	44	14.4
100	6.9	6.1	23.1	54	17.7	53	17.4	52	17.1	50	16.4	48	15.7	45	14.8

102-2925 Blue	Trajectory		30°		25°		20°		15°		10°		7°	
Pressure		Flow		Radius		Radius		Radius		Radius		Radius		Radius	
Psi	BAR	Gpm	lpm	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
50	3.4	2.7	10.2	42	13.8	41	13.5	39	12.8	38	12.5	36	11.8	34	11.2
60	4.1	3.0	11.4	43	14.1	42	13.8	40	13.1	39	12.8	37	12.1	35	11.5
65	4.5	3.2	12.1	43	14.1	42	13.8	40	13.1	39	12.8	37	12.1	35	11.5
70	4.8	3.3	12.5	44	14.4	42	13.8	41	13.5	39	12.8	38	12.5	36	11.8
80	5.5	3.5	13.2	44	14.4	43	14.1	41	13.5	40	13.1	38	12.5	36	11.8
90	6.2	3.7	14.0	45	14.8	44	14.4	42	13.8	41	13.5	39	12.8	37	12.1
100	6.9	3.9	14.8	45	14.8	44	14.4	43	14.1	42	13.8	40	13.1	38	12.5

Performance Charts

INTERMEDIATE NOZZLE PERFORMANCE CHARTS

102-6885 Green		Trajectory		30°		25°		20°		15°		10°		7°	
Pressure		Flow		Radius		Radius		Radius		Radius		Radius		Radius	
Psi	BAR	Gpm	lpm	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
50	3.4	5.4	20.4	51	16.7	50	16.4	48	15.7	45	14.8	42	13.8	39	12.8
60	4.1	5.9	22.3	52	17.1	51	16.7	49	16.1	46	15.1	43	14.1	41	13.5
65	4.5	6.1	23.1	52	17.1	51	16.7	50	16.4	47	15.4	44	14.4	42	13.8
70	4.8	6.3	23.8	53	17.4	52	17.1	50	16.4	47	15.4	44	14.4	42	13.8
80	5.5	6.7	25.4	53	17.4	52	17.1	51	16.7	48	15.7	45	14.8	43	14.1
90	6.2	7.1	26.9	54	17.7	53	17.4	52	17.1	50	16.4	47	15.4	45	14.8
100	6.9	7.4	28.0	55	18.0	55	18.0	54	17.7	52	17.1	49	16.1	47	15.4

102-6884 Yellow		Trajectory		30°		25°		20°		15°		10°		7°	
Pressure		Flow		Radius		Radius		Radius		Radius		Radius		Radius	
Psi	BAR	Gpm	lpm	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
50	3.4	4.1	15.5	48	15.7	47	15.4	45	14.8	41	13.5	38	12.5	35	11.5
60	4.1	4.5	17.0	49	16.1	48	15.7	47	15.4	44	14.4	41	13.5	38	12.5
65	4.5	4.7	17.8	50	16.4	49	16.1	48	15.7	45	14.8	42	13.8	39	12.8
70	4.8	4.8	18.2	50	16.4	49	16.1	48	15.7	45	14.8	43	14.1	40	13.1
80	5.5	5.1	19.3	51	16.7	50	16.4	49	16.1	47	15.4	44	14.4	41	13.5
90	6.2	5.4	20.4	53	17.4	52	17.1	50	16.4	48	15.7	45	14.8	42	13.8
100	6.9	5.8	22.0	54	17.7	53	17.4	51	16.7	49	16.1	46	15.1	43	14.1

102-6883 Brown		Trajectory		30°		25°		20°		15°		10°		7°	
Pressure		Flow		Radius		Radius		Radius		Radius		Radius		Radius	
Psi	BAR	Gpm	lpm	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
50	3.4	2.4	9.1	41	13.5	40	13.1	38	12.5	36	11.8	33	10.8	30	9.8
60	4.1	2.6	9.8	43	14.1	42	13.8	40	13.1	38	12.5	36	11.8	33	10.8
65	4.5	2.7	10.2	44	14.4	42	13.8	41	13.5	39	12.8	37	12.1	34	11.2
70	4.8	2.8	10.6	45	14.8	43	14.1	42	13.8	40	13.1	38	12.5	35	11.5
80	5.5	3.0	11.4	46	15.1	45	14.8	43	14.1	41	13.5	40	13.1	36	11.8
90	6.2	3.2	12.1	46	15.1	45	14.8	44	14.4	42	13.8	41	13.5	37	12.1
100	6.9	3.4	12.9	46	15.1	45	14.8	44	14.4	43	14.1	41	13.5	38	12.5

INNER NOZZLE PERFORMANCE CHARTS*

102-6937 Yellow		Trajectory		30°		25°		20°	
Pressure		Flow		Radius		Radius		Radius	
Psi	BAR	Gpm	lpm	Feet	Meters	Feet	Meters	Feet	Meters
50	3.4	3.7	14.0	26	8.5	24	7.9	20	6.6
60	4.1	4.0	15.1	28	9.2	25	8.2	22	7.2
65	4.5	4.2	15.9	28	9.2	25	8.2	22	7.2
70	4.8	4.4	16.7	28	9.2	26	8.5	23	7.5
80	5.5	4.7	17.8	28	9.2	26	8.5	24	7.9
90	6.2	5.0	18.9	29	9.5	27	8.9	25	8.2
100	6.9	5.2	19.7	30	9.8	29	9.5	27	8.9

102-6531 Green		Trajectory		30°		25°		20°	
Pressure		Flow		Radius		Radius		Radius	
Psi	BAR	Gpm	lpm	Feet	Meters	Feet	Meters	Feet	Meters
50	3.4	4.0	15.1	32	10.5	30	9.8	26	8.5
60	4.1	4.3	16.3	34	11.2	31	10.2	27	8.9
65	4.5	4.5	17.0	34	11.2	31	10.2	27	8.9
70	4.8	4.7	17.8	34	11.2	31	10.2	28	9.2
80	5.5	5.0	18.9	34	11.2	32	10.5	29	9.5
90	6.2	5.3	20.1	34	11.2	32	10.5	29	9.5
100	6.9	5.6	21.2	35	11.5	33	10.8	30	9.8

** Not recommended below 20°*

Main Nozzle Adaptor
P/N 118-1521

FLEX800™ R SERIES CONVERSION UPGRADES

NEW!

The Toro FLEX800™ R Series Conversion Upgrades enable customers with existing Rain Bird® Eagle™ 900 and 1100 Series sprinklers to upgrade to Toro's industry leading sprinkler technology. The benefits of upgrading include the patented TruJectory™ adjustment, full and part circle in the same sprinkler, the ability to ratchet the riser and clutch the nozzle base, and an extra 1½" pop-up height.

FEATURES & BENEFITS

Industry's Largest Nozzle Selection

Nozzles from 42' to 100' radius plus a wide assortment of back nozzles lets you put the precise amount of water exactly where you need it.

20,000 Volt Lightning Rating

Spike Guard™ solenoid virtually eliminates the need for replacements in high lightning areas. Draws half the amperage of traditional solenoids so you can run twice as many sprinklers simultaneously, reduce the cost of wire during installation or increase the distance from controller to sprinkler.

Dual TruJectory

The 25° setting provides maximum distance of throw and the 15° setting provides improved wind performance, radius reduction and obstacle avoidance (FLX54RB and FLX55RB).

True Full-Circle in One (40° - 330° part circle)

These sprinklers can be full circle today and part circle tomorrow allowing you to simply and economically adjust the area of coverage to match your seasonal needs or meet water rationing mandates (FLX55-6RB and FLX55RB).

FLX55-6RB

FLX55RB

FLX54RB

Adds 1½" of Pop-up Height

20,000 Volt Lightning Rating

Left: Rain Bird Eagle 900

Right: Rain Bird Eagle 900 upgraded with Toro R Series upgrade assembly and optional Spike Guard solenoid/adapter

SPECIFICATIONS

Operational

- Ratcheting riser allows riser positioning without riser removal.
- Recommended Operating Pressure Range: 60-100 psi (maximum – 150 psi and minimum – 40 psi)
- Radius reduction screw for radius refinement
- Riser pull-up feature simplifies servicing
- Effluent identifier included
- Yardage marker capable
- 3.25" pop-up clears tall grasses

Nozzles

- 4 main nozzle combinations included provides a wide range of radius and flow capabilities.
- Back nozzle capable (FLX55-6RB & FLX55RB)
- Two additional front nozzle positions (FLX54RB only)
- Nozzle base clutching (FLX55-6RB & FLX55RB) allows nozzle base movement by hand
- All nozzles threaded from the front with no other disassembly required.

Specifying Information—FLEX800 R Series Conversion Assemblies

Model Number	*Description*
FLX55-6RB-5154	R Series Conversion with FLX55-6 riser assembly and low flow nozzle set #51 - #54
FLX55-6RB-5558	R Series Conversion with FLX55-6 riser assembly and high flow nozzle set #55 - #58
FLX55RB-5154	R Series Conversion with FLX55 riser assembly and low flow nozzle set #51 - #54
FLX55RB-5558	R Series Conversion with FLX55 riser assembly and high flow nozzle set #55 - #58
FLX54RB-5154	R Series Conversion with FLX54 riser assembly and low flow nozzle set #51 - #54
FLX54RB-5558	R Series Conversion with FLX54 riser assembly and high flow nozzle set #55 - #58
SPIKEGUARD-RB	Toro solenoid adapter with Spike Guard™ solenoid for Rain Bird® Eagle 700, 900 or 1100 Series sprinklers

Toro® has designed and manufactured this product to fit within a sprinkler housing made by Rain Bird® Corporation, but Toro's product is not manufactured by or affiliated with Rain Bird®. Rain Bird® is a registered trademark of Rain Bird Corporation.

TORO SPRINKLER CONVERSION ASSEMBLES

CROSS REFERENCE GUIDE					Models Being Replaced										
New Model	Arc	Trajectory	Radius - Ft	Flow - Gpm	634	664	734	764	765	864S	865S	834S	835S	DT34	DT35
FLX34-3134	Full Circle	25° or 15°	52' - 79'	12.9 - 34.9	X	X	X	X	X	X	X	X	X	X	X
FLX34-3537	Full Circle	25° or 15°	67' - 91'	32.1 - 46.9	X	X	X	X	X	X	X	X	X	X	X
FLX35-3134	Part/Full Circle	25° or 15°	52' - 74'	13.6 - 34.1			1	X	X	X	X	X	X	X	X
FLX35-3537	Part/Full Circle	25° or 15°	69' - 83'	33.1 - 47.3			1	X	X	X	X	X	X	X	X
FLX35-6-3134	Part/Full Circle	30° - 7°	46' - 80'	15.5 - 37.0			1	X	X	X	X	X	X	X	X
FLX35-6-3537	Part/Full Circle	30° - 7°	59' - 92'	32.4 - 45.3			1	X	X	X	X	X	X	X	X

1. Must have ribbed bodies manufactured after 1992 to use Part/Full circles.

CROSS REFERENCE GUIDE					Models Being Replaced												
New Model	Arc	Trajectory	Radius - Ft	Flow - Gpm	654	655	670	684	690	754	784	785	884S	885S	854S	855S	DT54	DT55
FLX54-5154	Full Circle	25° or 15°	58' - 81'	13.2 - 36.7	2	2	2	2	4	2	2	2	X	X	X	X	X	X
FLX54-5558	Full Circle	25° or 15°	79' - 95'	34.2 - 55.4	2	2	2	2	4	2	2	2	X	X	X	X	X	X
FLX54-59	Full Circle	25° or 15°	96' - 99'	55.6 - 61.8	2	2	2	2	4	2	2	2	X	X	X	X	X	X
FLX55-5154	Part/Full Circle	25° or 15°	55' - 75'	14.0 - 34.5					4	2	2	2	X	X	X	X	X	X
FLX55-5558	Part/Full Circle	25° or 15°	73' - 90'	35.3 - 53.9					4	2	2	2	X	X	X	X	X	X
FLX55-59	Part/Full Circle	25° or 15°	82' - 92'	57.2 - 61.3					4	2	2	2	X	X	X	X	X	X
FLX55-6-5154	Part/Full Circle	30° - 7°	46' - 80'	13.9 - 38.2					4	2	2	2	X	X	X	X	X	X
FLX55-6-5558	Part/Full Circle	30° - 7°	59' - 95'	33.8 - 51.1					4	2	2	2	X	X	X	X	X	X
FLX55-6-59	Part/Full Circle	30° - 7°	77' - 100'	57.0 - 61.1					4	2	2	2	X	X	X	X	X	X
FLX55-5154R	Part/Full Circle	25° or 15°	55' - 75'	14.0 - 34.5	3	3	3	3		3								
FLX55-5558R	Part/Full Circle	25° or 15°	73' - 90'	35.3 - 53.9	3	3	3	3		3								
FLX55-59R	Part/Full Circle	25° or 15°	82' - 92'	57.2 - 61.3	3	3	3	3		3								
FLX55-6-5154R	Part/Full Circle	30° - 7°	46' - 80'	13.9 - 38.2	3	3	3	3		3								
FLX55-6-5558R	Part/Full Circle	30° - 7°	59' - 95'	33.8 - 51.1	3	3	3	3		3								
FLX55-6-59R	Part/Full Circle	30° - 7°	77' - 100'	57.0 - 61.1	3	3	3	3		3								

2 - Requires the separate purchase and use of 102-0950 conversion adapter
3 - Use the "R" Series (Ribless body) conversion for bodies dated prior to 1992.
4 - Requires the separate purchase and use of 102-5011 690 conversion adapter

FLEX800™ R SERIES CONVERSION UPGRADES

Main Nozzle Data

FLX55-6RB-5154 Performance Chart									FLX55-6RB-5558 Performance Chart							
Front Nozzle Positions	Nozzle Set 51 (Yellow)		Nozzle Set 52 (Blue)		Nozzle Set 53 (Brown)		Nozzle Set 54 (Orange)		Nozzle Set 55 (Green)		Nozzle Set 56 (Gray)		Nozzle Set 57 (Black)		Nozzle Set 58 (Red)	
	102-4587		102-4588		102-4589		102-0728		102-0729		102-0730		102-4261		102-4260	
	102-2925	102-2910	102-2928	102-2910	102-2926	102-2910	102-2926	102-2910	102-2925	102-2910	102-2925	102-2910	102-2926	102-2910	102-2925	102-2910
Back Nozzle Positions	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug
	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335
psi	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm
60	55	16.1	63	20.3	69	23.4	75	31.3	—	—	—	—	—	—	—	—
70	56	17.4	66	21.8	70	25.3	76	33.8	—	—	—	—	—	—	—	—
80	57	18.5	68	23.3	72	27.0	77	36.0	80	39.1	85	41.0	88	45.4	92	49.7
90	58	19.4	70	24.5	75	28.5	79	38.1	83	41.5	87	43.5	91	48.2	94	52.8
100	59	20.5	72	25.9	76	30.0	80	40.2	86	43.7	90	45.7	94	50.6	96	55.3
Stator	102-1939 Yellow								102-1940 White							

FLX55RB-5154 Performance Chart									FLX55RB-5558 Performance Chart							
Front Nozzle Positions	Nozzle Set 51 (Yellow)		Nozzle Set 52 (Blue)		Nozzle Set 53 (Brown)		Nozzle Set 54 (Orange)		Nozzle Set 55 (Green)		Nozzle Set 56 (Gray)		Nozzle Set 57 (Black)		Nozzle Set 58 (Red)	
	102-6906		102-0726		102-6907		102-0728		102-6955		102-6935		102-6936		102-6909	
	102-5670	102-5671	102-5670	102-6884	102-5670	102-6884	102-5670	102-6884	102-5670	102-6885	102-6531	102-6885	102-6531	102-6885	102-6531	102-6885
Back Nozzle Positions	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug
	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335	102-4335
psi	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm
60	56	15.2	57	20.1	66	24.3	68	28.0	—	—	—	—	—	—	—	—
70	58	16.5	60	21.7	67	26.2	71	30.4	—	—	—	—	—	—	—	—
80	59	17.5	62	23.1	68	27.8	72	31.7	76	39.7	80	43.1	83	48.2	85	53.0
90	60	18.4	64	24.5	71	28.8	74	34.5	78	43.1	81	45.1	86	51.2	87	56.0
100	61	19.3	66	25.3	72	30.3	75	36.5	80	45.5	82	49.0	90	54.5	89	59.0
Stator	102-1939 Yellow								102-1940 White							

FLX54RB-5154 Performance Chart									FLX54RB-5558 Performance Chart							
Front Nozzle Positions	Nozzle Set 51 (Yellow)		Nozzle Set 52 (Blue)		Nozzle Set 53 (Brown)		Nozzle Set 54 (Orange)		Nozzle Set 55 (Green)		Nozzle Set 56 (Gray)		Nozzle Set 57 (Black)		Nozzle Set 58 (Red)	
	102-0725		102-7001		102-0727		102-7002		102-6908		102-0730		102-4261		102-4260	
	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Red Plug	Brown	Red Plug	Brown
Back Nozzle Positions	Yellow	Blue	Yellow	Orange	Yellow	Red	Yellow	Beige	Yellow	Beige	Yellow	Red	Yellow	Gray	Yellow	Gray
	102-6937	102-2925	102-6937	102-2926	102-6937	102-2928	102-6937	102-2929	102-6937	102-2929	102-6937	102-2928	102-6937	102-4965	102-6937	102-4965
psi	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm	Rad/Ft	gpm
60	59	14.6	62	17.4	68	24.3	71	28.2	—	—	—	—	—	—	—	—
70	60	15.7	63	18.8	70	26.3	75	30.6	—	—	—	—	—	—	—	—
80	61	16.4	64	20.0	72	27.6	78	32.6	83	39.5	85	42.7	87	45.9	91	50.2
90	62	17.8	66	21.3	74	29.9	80	34.7	85	41.6	88	44.9	90	48.5	93	52.8
100	63	18.1	67	23.6	75	30.4	81	36.7	87	43.7	90	46.8	93	51.2	95	55.4
Stator	102-6929 Blue								102-1940 White							

Not recommended at these pressures. Radius shown in feet.

Toro recommends the use of a 11/4" swing joint at flows over 25-Gpm (95-LPM). Sprinkler radius data collected in Toro's zero wind test facility per ASAE standard S398.1. Actual site conditions must be considered when selecting the appropriate nozzle.

Mainless Data

FLX55-6RB SERIES MAINLESS NOZZLE PERFORMANCE DATA

	 Blue Plug Grey 102-2925 102-2208 102-2910		 Orange Plug Grey 102-2926 102-2208 102-2910		 Red Plug Grey 102-2928 102-2208 102-2910		 Grey Plug Grey 102-2910 102-2208 102-2910		 Grey Plug Grey 102-2930 102-2208 102-2910	
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
65	46	8.7	46	10.4	50	12.4	42	10.2	47	13.9
SOR	5:02		4:16		3:36		4:19		4:06	
80	46	9.6	47	11.5	53	13.7	44	11.2	51	15.3
SOR	4:22		3:40		3:03		3:53		3:40	

Requires the low-flow stator 102-6929 for indicated rotation speeds.
SOR: Speed of rotation

FLX55RB MAINLESS NOZZLE PERFORMANCE DATA

	 Green Plug Grey 102-6531 102-2208 102-2910		 Green Plug Green 102-6531 102-2208 102-6885		 Green Plug Red 102-6531 102-2208 102-2928		 Green Plug Beige 102-6531 102-2208 102-2929	
psi	Radius	gpm	Radius	gpm	Radius	gpm	Radius	gpm
65	34	10.4	44	10.2	48	11.5	50	13.5
SOR	3:40		3:50		3:25		2:40	
80	37	11.6	44	11.4	48	12.9	50	15.0
SOR	3:15		3:25		3:00		2:30	

Requires the low-flow stator 102-6929 for indicated rotation speeds.
SOR: Speed of rotation

Back Nozzle Performance Data

Nozzles				**65 psi**		**80 psi**		
Part #	Description	Color		Radius	gpm	Radius	gpm	Profile
102-6937	Inner Nozzle w/ Yellow Restrictor		Yel/Yel	29	3.7	30	4.1	
102-6531	Inner Nozzle w/ White Restrictor		Grn/Wht	31	4.3	33	4.6	
102-6883	Intermediate Nozzle		Brown	38	2.8	38	2.8	
102-6884	Intermediate Nozzle		Yellow	41	4.1	43	4.5	
102-6885	Intermediate Nozzle		Green	42	5.4	45	6.0	
102-2925	Intermediate Nozzle		Blue	40	2.8	42	3.2	
102-2926	Intermediate Nozzle		Orange	44	4.3	45	4.8	
102-2927	Intermediate Nozzle		Gray	46	5.1	47	5.4	
102-2928	Intermediate Nozzle		Red	48	6.5	50	7.0	
102-2929	Intermediate Nozzle		Beige	51	8.1	53	9.1	

T7 SERIES ROTORS

The T7 Series sprinkler is built rugged to withstand the harsh golf course conditions. The low-flow version is perfect for shorter-radius golf course applications like tee boxes, surrounds and perimeters. The T7 has been designed and tested to ensure the high reliability demanded by the market.

FEATURES & BENEFITS

Water is Evenly Distributed

High efficiency nozzles with single port design ensure water is evenly distributed across the pattern.

Versatility

Available in standard and low-flow models to meet your application needs.

Vandal and Abuse Resistant

The Smart Arc memory safely returns the sprinkler to previously set arc even when turned beyond arc borders.

Clears Tall Grasses

The 5.75 inch pop-up ensures proper spray pattern and nozzle distribution uniformity even in taller grasses.

Additional Features

- Standard check valve
- Radius reduction screw – up to 25%
- Threaded cap-retained riser assembly
- Variable reversing stator
- Slip clutch
- Riser pull-up feature – adjustment/pull-up tool supplied
- Locking cap screw

Model Choices

- Plastic or stainless steel models
- Low-Flow or High-Flow models
- Effluent water indicator models

Top Arc Indication
Arc setting indicator on top of the rotor allows for easy wet or dry adjustments. Part or full-circle from 45° to 360°.

NOZZLE PERFORMANCE DATA-HIGH FLOW MODELS

Nozzle	Press. (psi)	Radius (Ft)	Flow Rate (gpm)	Precip Rate (in/hr) ▲	Precip Rate (in/hr) ■
7.0	40	46.3	6.81	0.715	0.620
	50	48.7	7.41	0.746	0.646
	60	49.0	8.10	0.782	0.677
	70	50.3	8.90	0.824	0.714
	80	52.0	9.67	0.827	0.716
	90	52.0	10.27	0.845	0.732
	100	53.3	10.85	0.827	0.716
9.0	40	47.3	7.54	0.759	0.657
	50	50.7	8.25	0.734	0.635
	60	50.3	8.91	0.762	0.660
	70	52.0	9.81	0.807	0.699
	80	53.7	10.49	0.800	0.693
	90	53.3	11.20	0.823	0.713
	100	54.0	11.83	0.839	0.727
12.0*	40	50.3	9.95	0.885	0.767
	50	53.3	10.55	0.902	0.781
	60	56.7	11.53	0.913	0.791
	70	59.0	12.54	0.956	0.828
	80	59.7	13.51	0.993	0.860
	90	60.7	14.38	1.020	0.883
	100	63.0	15.18	1.039	0.900
16.0	40	52.3	13.42	1.062	0.920
	50	57.0	14.96	1.061	0.919
	60	60.0	15.79	1.044	0.904
	70	61.0	17.13	1.094	0.948
	80	63.7	18.41	1.100	0.953
	90	64.3	19.64	1.136	0.984
	100	65.7	20.80	1.166	1.009
20.0	40	52.0	16.10	1.275	1.104
	50	57.3	18.40	1.216	1.053
	60	61.0	19.56	1.209	1.047
	70	63.7	21.01	1.256	1.087
	80	66.3	22.58	1.188	1.029
	90	68.0	23.99	1.225	1.061
	100	70.3	25.29	1.253	1.085
24.0	40	53.7	15.46	1.272	1.101
	50	60.3	17.69	1.093	0.946
	60	63.7	19.76	1.107	0.959
	70	66.3	21.61	1.138	0.985
	80	68.3	23.29	1.154	0.999
	90	70.0	24.87	1.196	1.036
	100	72.3	26.30	1.160	1.005
27.0	40	55.0	19.37	1.424	1.233
	50	64.3	21.98	1.157	1.002
	60	71.0	23.82	1.051	0.910
	70	72.3	25.67	1.101	0.954
	80	73.0	27.34	1.141	0.988
	90	74.3	29.03	1.179	1.021
	100	75.0	30.52	1.207	1.045

** Pre-installed nozzle. Data based on 180°*

SPECIFICATIONS

Operational

- Inlet size: 1" threaded ACME
- Radius:
  - Low-flow models: 38' – 56'
  - High-flow models: 46' – 75'
- Flow rate:
  - Low-flow models: 1.7 – 13.0 gpm;
    6 nozzle tree included with each head (2, 3, 4.5, 6, 7.5 and 9)
  - High-flow models: 6.8 – 30.5 gpm;
    7 nozzle tree included with each head (7, 9, 12, 16, 20, 24 and 27)
- Operating pressure: 40-100 psi
- Arc adjustment: 45° - 360° (unidirectional at 360°)

Dimensions

- Body diameter: 2.7"
- Body height: 8.8"
- Rubber cover diameter: 2.2"
- Pop-up height to nozzle: 5.75"

Warranty

- Five years

NOZZLE PERFORMANCE DATA-LOW FLOW MODELS

Nozzle	Press. (psi)	Radius (Ft)	Flow Rate (gpm)	Precip Rate (in/hr) ▲	Precip Rate (in/hr) ■
2.0	40	40	1.73	0.25	0.22
	50	42	1.96	0.29	0.25
	60	42	2.17	0.30	0.26
	70	41	2.36	0.33	0.28
	80	42	2.54	0.35	0.31
	90	41	2.71	0.36	0.31
	100	41	2.88	0.38	0.33
3.0*	40	41	2.43	0.36	0.31
	50	42	2.77	0.39	0.33
	60	41	3.10	0.41	0.36
	70	41	3.38	0.45	0.39
	80	42	3.64	0.46	0.40
	90	41	3.89	0.47	0.41
	100	43	4.06	0.49	0.42
4.5	40	38	4.07	0.63	0.54
	50	41	4.65	0.62	0.53
	60	41	5.17	0.68	0.59
	70	42	5.64	0.71	0.62
	80	42	6.08	0.77	0.66
	90	43	6.49	0.78	0.68
	100	43	6.88	0.83	0.72
6.0	40	43	4.92	0.59	0.51
	50	46	5.63	0.59	0.51
	60	48	6.27	0.61	0.52
	70	50	7.05	0.65	0.57
	80	49	7.37	0.68	0.59
	90	50	7.87	0.70	0.61
	100	50	8.37	0.74	0.64
7.5	40	44	5.78	0.66	0.58
	50	46	6.63	0.70	0.60
	60	48	7.37	0.71	0.62
	70	50	8.05	0.75	0.65
	80	51	8.73	0.78	0.67
	90	52	9.46	0.84	0.73
	100	52	9.89	0.81	0.70
9.0	40	45	7.33	0.81	0.70
	50	49	8.44	0.78	0.68
	60	51	9.39	0.80	0.70
	70	54	10.43	0.83	0.72
	80	55	11.27	0.83	0.72
	90	55	12.05	0.89	0.77
	100	56	12.74	0.90	0.78

** Pre-installed nozzle. Data based on 180°*

Specifying Information—T7 Series Rotors

T7PSS-42XX			
Description	*Optional*	*Thread*	*Optional*
T7P	**SS**	**42**	**X**
T7P—Sports Rotor	SS—Stainless Steel Riser	42–ACME Thread	E—Effluent L—Low Flow
Example: A low flow T7P sprinkler with a stainless steel riser and effluent rubber cover would be specified as **T7PSS-42LE**			

690 SERIES ROTORS

For nearly 50 years the 690 Series has set the standard for durability and reliability in golf applications. Two 2-speed models provide a slower speed in the non-overlap areas and a faster speed in the overlap areas to provide a more balanced precipitation rate than traditional single speed full circle sprinklers in these applications which lowers system costs.

FEATURES & BENEFITS

696 2-Speed Models

Used in single row applications these sprinklers operate at a slower speed over the 60 degree non-overlap area and a faster speed over the 120 degree overlapped areas to provide a balanced application rate.

698 2-Speed Models

Used in double row applications these sprinklers operate at a slower speed over the 180 degree non-overlap area and a faster speed over the 180 degree overlapped areas to provide a balanced application rate.

Artificial Playing Surfaces

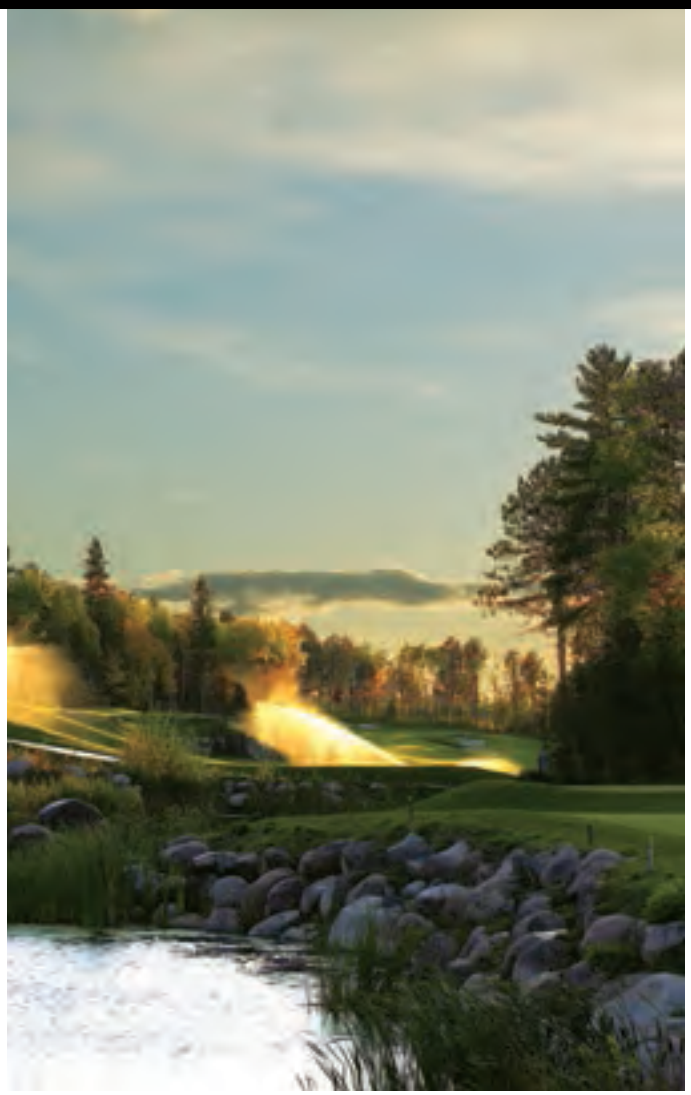
Radius and flow capabilities are perfect for cooling and rinsing artificial playing surfaces.

Electric Valve In Head Models

Electric valve in head models provide individual head control that ensures run times can match differing soil, turf and terrain watering requirements, pressure regulation to ensure all nozzles perform at the same pressure and manual ON-OFF-Auto control at the head.

Additional Features

- Manual control at the sprinkler, On-Off-Auto (electric)
- Time-proven, gear-drive design
- All internal components serviceable from the top of the sprinkler
- Durable engineering plastic and stainless steel construction
- Nine arc selections



SPECIFICATIONS

Operational

- Inlet: 1½" NPT
- Radius: 87' – 108'
- Flow Rate: 51.0 – 82.2 gpm
- Recommended Operating Pressure Range: 80-100 psi
  Maximum pressure: 150 psi
  Minimum pressure: 40 psi
- Electric Valve-In-Head Solenoid: 24V ac, 50/60 Hz
  - Inrush: 60 Hz, 0.30 Amps
  - Holding: 60 Hz, 0.20 Amps
- Check-O-Matic: Maintains 37' of elevation

Dimensions

- Body diameter: 10"
- Body height: 16"
- Weight: 5.6 lbs.
- Pop-up height to nozzle: 3/4"

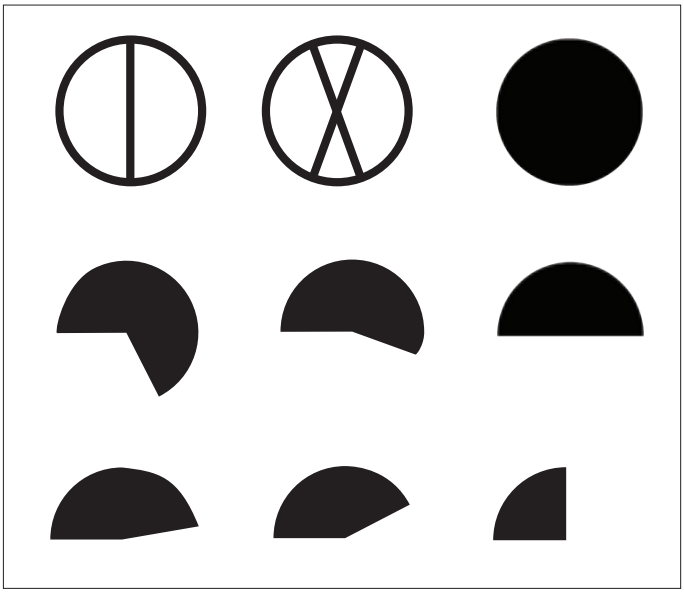
Warranty

- Three years
- Five years when installed with Toro Swing Joints

690 SERIES PERFORMANCE CHART

Base Pressure	Nozzle Set 90		Nozzle Set 91		Nozzle Set 92	
psi	Radius	gpm	Radius	gpm	Radius	gpm
80	87	51.0	96	61.2	100	74.0
100	90	57.1	100	73.5	108	82.2

Radius shown in feet.
Sprinkler radius of throw per ASAE standard S398.1.



Fixed Arc Drives
Nine fixed arc drive assemblies ensure positive retention of the coverage area with no arc drift.

Specifying Information—690 Series Rotors

69X-0X-XXX			
Arc	*Valve-In-Head Type*	*Nozzle*	*Pressure Regulation**
69X	0X	XX	X
1—90° 2—180° 4—Full-circle 6—Full-circle, 2-speed (60°–120°) 8—Full-circle, 2-speed (180°–180°)	1—Normally Open Hydraulic 2—Check-O-Matic 6—Electric	90 91 92	8—80 Psi 1—100 Psi
Example: When specifying a 690 Series Sprinkler with a 180° arc, electric valve-in-head, #91 nozzle, and pressure regulation at 80 Psi, you would specify: **692-06-918**			

**Electric models only.*

590GF SERIES SPRAYS

Toro's 590GF Series is the first spray head designed specifically for golf course irrigation with enhanced water management capabilities. The 590GF is built for the tough golf course environment, including harsh debris situations like top-dressing and sand, high water pressures, and daily mower and foot traffic. The 590GF is perfect around bunkers, on small tee boxes, and around the clubhouse. And with its patented X-Flow technology, the 590GF has a built-in shutoff device should a nozzle be damaged or removed and it's standard check valve feature minimizes low head drainage.

FEATURES & BENEFITS

Nozzle Options

In addition to the full line of Toro MPR, TVAN and specialty nozzles the 590GF accepts the revolutionary Precision™ Spray and Precision™ Rotating Series nozzles with optimized distribution uniformity that provides exceptional turf conditions with minimal water usage.

Designed Flush Rate

Sprinkler flushes during pop-up and retraction clearing debris from around the riser to eliminate stick-ups and ensure positive sealing and retraction.

X-Flow® Shut Off Device

The X-Flow shut off feature stops the flow of water if the nozzle is damaged or removed to eliminate flooding, water waste and soil erosion.

Prevent Low Head Drainage

The standard check valve prevents low head drainage with up to 10' of elevation change minimizing soil erosion and water waste.

Additional Features

- Stainless steel retraction spring
- All bodies shipped with flush plug in place
- Ratcheting riser feature for arc adjustment

Without X-Flow®
Water waste, soil erosion and flooding occur

With X-Flow®
Eliminates water waste, soil erosion and flooding

Flanged Cap
Flanged cap installs below grade to stabilize the body position and maintain optimum nozzle performance.

SPECIFICATIONS

Operational

- Radius: 2' – 26'
- Recommended pressure range: 25-50 psi (maximum – 75 psi)
- Flow rate: 0.05 – 4.5 Gpm
- 2 Gpm flush rate

Dimensions

- Body diameter:
  - 13/8" on 4P and 6P
  - 15/8" on 12P
- Cap diameter: 2"
- Inlet: 1/2" female-threaded

Warranty

- Three years

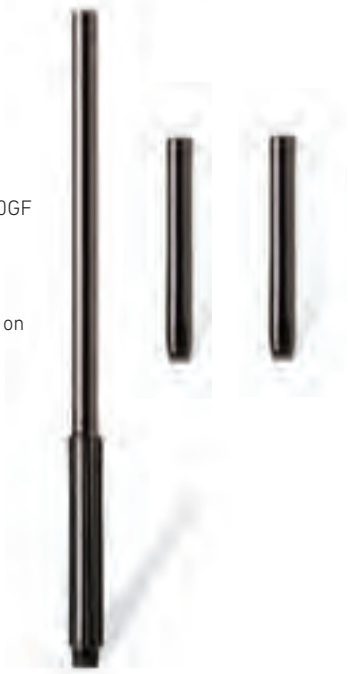
Risers and Extenders

570-6X

- Male-inlet threads install onto any 590GF sprinkler or to provide a 6" extension
- Maximum pressure: 75 psi

570SR-6 and 570SR-18 Risers

- 1/2" male-threaded inlet for installation on pipe fittings
- Maximum pressure: 75 psi
- Height: 6" and 18"



Specifying Information—590GF Series Sprays

590GF-XX-E		
Model	*Pop-Up Height*	*Optional*
590GF	**XX**	**E**
590GF—590GF Series Sprays	4—4" Pop-Up 6—6" Pop-Up 12—12" Pop-Up	E—Effluent

PRECISION™ SERIES ROTATING NOZZLE

Based off the design of the world's leading gear-driven rotor for golf applications, the Precision™ Series Rotating Nozzle powered by its proven planetary gear drive delivers wind-resistant, multi-stream, multi-trajectory patterns. Both the full circle and adjustable arc models deliver a radius range of 14 to 26 feet with exceptional uniformity and outstanding close-in watering, preventing the need to extend irrigation cycles to compensate for brown spots. The consistent matched precipitation rate of 0.55 inches per hour helps meet the needs of tight water windows.

FEATURES & BENEFITS

Gear-Driven

Precision™ Series Rotating Nozzles utilize a proven planetary gear drive, variable stator and turbine to rotate the nozzle. The entire gear package is contained in the area beneath the fine mesh filter screen. Particles large enough to enter through the filter will exit out of the nozzle plate through the multi-streams.

Matched Precipitation Rate of 0.55"/hr.

These nozzles deliver water more slowly and evenly than standard spray nozzles.

Consistent Speed of Rotation

The gear drive mechanism delivers a consistent speed of rotation regardless of system pressure and prevents product stalling at low pressure.

Female-threaded
PRN-A

Male-threaded
PRN-TA

Female-threaded
PRN-F

Male-threaded
PRN-TF

PERFORMANCE DATA – PRECISION™ SERIES ROTATING NOZZLES

Arc	psi	gpm	Radius	Precip. Rate ■ (in./hr.)	Precip. Rate ▲ (in./hr.)
45°	20	0.17	14.0	0.67	0.77
	30	0.19	15.0	0.65	0.75
	40	0.25	17.0	0.67	0.77
	50	0.31	18.5	0.70	0.81
	60	0.35	19.5	0.71	0.82
	75	0.43	22.0	0.68	0.79
90°	20	0.43	16.0	0.65	0.75
	30	0.49	17.5	0.62	0.71
	40	0.62	20.5	0.57	0.66
	50	0.75	22.5	0.57	0.66
	60	0.82	23.5	0.57	0.66
	75	0.92	25.0	0.57	0.65
120°	20	0.48	16.4	0.69	0.79
	30	0.57	17.5	0.72	0.83
	40	0.78	20.2	0.55	0.64
	50	0.97	22.5	0.55	0.64
	60	1.07	23.5	0.56	0.65
	75	1.18	25.0	0.55	0.63
180°	20	0.83	15.0	0.71	0.82
	30	0.94	17.0	0.63	0.72
	40	1.22	20.5	0.56	0.65
	50	1.46	22.5	0.56	0.64
	60	1.61	24.0	0.54	0.62
	75	1.81	26.0	0.52	0.60
240°	20	1.12	15.0	0.72	0.83
	30	1.27	17.0	0.63	0.73
	40	1.56	20.0	0.56	0.65
	50	1.80	21.5	0.56	0.65
	60	1.95	22.5	0.56	0.64
	75	2.20	24.0	0.55	0.64
270°	20	1.08	14.0	0.71	0.81
	30	1.23	16.0	0.62	0.71
	40	1.62	19.0	0.57	0.66
	50	2.00	21.5	0.55	0.64
	60	2.26	23.0	0.55	0.63
	75	2.60	25.0	0.53	0.61
360°	20	1.81	15.0	0.77	0.89
	30	2.00	17.2	0.65	0.75
	40	2.56	20.9	0.56	0.65
	50	3.09	22.9	0.57	0.65
	60	3.34	23.8	0.57	0.66
	75	3.68	25.6	0.54	0.62

Nozzle data subject to change.

SPECIFICATIONS

Operational

- Radius: 14'-26'
- Operating pressure range: 20-75 psi
- Recommended Pressure: 40-50 psi
- Flow Rate: 0.17-3.68 gpm

Warranty

- Five years

Additional Features

- 15 unique streams with different trajectories
- Maximum height of 20° trajectory to fight through wind
- Threads onto nearly all sprayheads and shrub adapters (male or female)
- Pre-attached screen for easy installation
- Radius reduction up to 25% by turning set screw
- Color coded to identify adjustable or full circle
- Precipitation rate = 0.55"/hr. on square spacing plans
- Maintains precipitation rate as radius is reduced
- Matched precipitation from 14-26 feet
- Matched precipitation from 20-75 psi
- Adjustable by hand or with included tool
- Consistent speed of rotation not affected by pressure

Step-Up™ Technology
Designed to deliver high uniformity with matched precipitation for in-close watering all the way out to the furthest radius point. The unique "steps" create 15 streams, each designed to cover an area of the pattern.

Precision™ Series Rotating Nozzle Visual Arc Adjustment
The unique adjustment method allows for pre-setting of arc by hand or tool before the nozzle is installed. Visual indicators allow the user to quickly adjust the arc pattern to the desired arc from 45-270°. The adjustment band can be adjusted by hand or with the pre-included tool (PRNTOOL).

Specifying Information—Precision™ Series Rotating Nozzle

PRN-XX		
Model	*Thread*	*Model*
PRN	X	X
PRN—Precision™ Rotating Nozzle	T—Male Thread Blank—Female Thread	A—Adjustable arc F— Full-circle

Example: A male threaded Precision™ Series Rotating nozzle with a 24' radius and a 180° arc would be specified as: **PRN-TA**
A female threaded Precision™ Series Rotating nozzle with a 20' radius and 360° arc would be specified as: **PRN-F**

PRECISION™ SERIES SPRAY NOZZLE

Toro's Precision™ Series Spray Nozzles are the most complete and efficient spray nozzle line available to help irrigation professionals manage water use. The Precision™ Spray nozzles 1"/hr. precipitation rate ensures that water is applied more slowly and evenly. Now also available in pressure-compensating versions, further enhancing the best-in-class spray nozzle in the industry.

FEATURES & BENEFITS

Patented H^20 Chip Technology

Using patented H^20 chip technology – and no moving parts – each Precision™ Series Spray nozzle creates one or more high frequency oscillating streams to achieve the desired arc and radius with 1/3 less water usage.

Maximize Irrigation Efficiency

Precision™ Spray nozzles deliver an industry first 1"/hr precipitation rate, which better matches soil infiltration rate. This lower precipitation rate, along with high distribution uniformity make this nozzles family the most efficient nozzle from 5'-15'.

Pressure-Compensating Versions Available

Pressure-Compensating Precision™ Series Spray Nozzles maintain 1"/hr precipitation rate and minimizes misting up to inlet pressures to more than 40 Psi, minimizing the need for a regulating head, at fraction of the cost.

No Moving or Sonic Welded Parts
Assures no variation at the end of the water arc for better edge definition and consistent, reliable performance.

Precision™ Series Spray Nozzle with PCD Performs Under Pressure!

Competitor's High Flow Nozzle:
*12H Nozzle at 50 Psi = 1.83Gpm or 2.45"/hr.**

Precision™ Series Spray Nozzle with PCD Nozzle:
*12H Nozzle at 50 Psi = 0.74 Gpm or 1"/hr.**

**Based on internal flow rate test data in Riverside, CA.*

Pressure Compensation Device
The elastomeric PCD disk opens and closes in response to changes in inlet pressure to maintain optimal performance, even when the pressure rises higher than 40 Psi.

SPECIFICATIONS

Operational

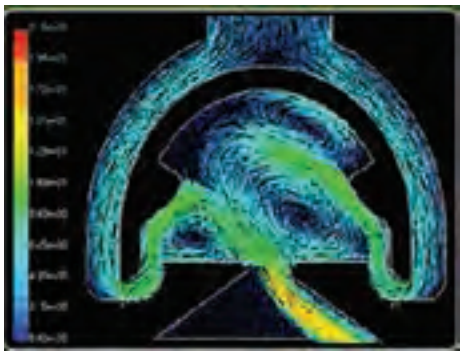
- Radius: 5'-15' (1,5-4,6m)
- Operating pressure range: 20-75 psi (1,4-5,2 Bar)
- Recommended Pressure: non-Pressure-Compensating—30 psi (2,1 Bars), Pressure Compensating—50 psi (3,4 Bars)
- Flow Rate: 0.04-2.4 gpm (0,1-9,4 LPM)
- Nozzle trajectory:
  - 5': 5°
  - 8': 10°
  - 10': 15°
  - 12': 20°
  - 15': 27°
  - Corner and Side Strips: 20°

Warranty

- Two years

Additional Features

- ✔ Specialty Arcs available (60°*, 120°, 150°*, 210°, 240°)
- ✔ Radius reduction 25% maximum
- ✔ Color coded for radius on top of the nozzle
- ✔ Precipitation rate ≤ 1"/hour
- ✔ Maintains precipitation rate as radius is reduced up to max of 25%
- ✔ Matched precipitation rate within radius families
- ✔ Matched precipitation rates between radius families
- ✔ Screen attached to nozzle for easy insertion into the spray body
- ✔ Works on all spray bodies-male and female



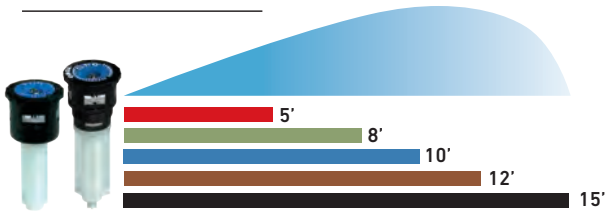
H²0 Technology
Water expands and collapses inside the H²0 Chip creating high-frequency oscillating streams which allow for distance of throw using 1/3 less flow.

Specifying Information

0-X-XXXX-XXXX				
Nozzle	***Thread***	***Radius***	***Arc***	***Body***
0	**X**	**XXXX**	**XXXX**	
0—1" Per Hour	T—Toro Male Threaded Nozzle Blank—Female Threaded Nozzle	5—5' 8—8' 10—10' 12— 12' 15—15' (4X15—4'X15'* 4X30—4'X30'* 4X9—4'X9' 4X18—4'X18'	60—60° Q—90° T—120° 150—150° H—180° 210—210° TT—240° TQ—270° F-360—Full-circle LCS—Left Corner RCS—Right Corner SST—Side Strip* P— Pressure-Compensating	Call out body as required
Example: A female threaded Precision™ Series Spray with a spray radius of 12' (3,7m) and a 90° arc would be specified as: **0-12-Q** **Example 2:** A male threaded Pressure-Compensating Precision™ Series Spray with a spray radius of 10' (3,0m) and a 180° arc would be spcified as **0-T-10-HP**				

PRECISION™ SERIES SPRAY NOZZLE PERFORMANCE CHARTS

5 Radii Available in Male & Female Threads



9 Arcs Plus Side and Corner Strips Available

60°* 90° 120° 150°* 180° 210°* 240° 270° 360°

4' X 15' 4' X 9' — LCS (Left Corner Strip)

4' X 30' 4' X 18' — SST (Side Strip)

4' X 15' 4' X 9' — RCS (Right Corner Strip)

* Not available with Pressure-Compensation

PERFORMANCE DATA PRESSURE-COMPENSATING PRECISION™ SERIES SPRAY NOZZLES

Arc	psi	gpm	Radius	Precip. Rate ☒ (in./hr.)	Precip. Rate ▲ (in./hr.)
5Q	40	0.06	4.6	1.0	1.2
	50	0.08	5.1	1.2	1.4
	60	0.09	5.6	1.3	1.5
	70	0.11	6.2	1.5	1.7
5T	40	0.07	4.4	1.0	1.1
	50	0.11	4.9	1.3	1.5
	60	0.15	5.5	1.7	2.0
	70	0.19	6.0	2.0	2.4
5H	40	0.10	4.4	1.0	1.2
	50	0.13	4.9	1.1	1.3
	60	0.16	5.4	1.3	1.5
	70	0.19	6.0	1.4	1.6
5TT	40	0.14	4.3	1.1	1.3
	50	0.20	4.9	1.3	1.5
	60	0.25	5.4	1.4	1.7
	70	0.31	6.0	1.6	1.8
5TQ	40	0.15	4.3	1.0	1.2
	50	0.21	4.9	1.2	1.4
	60	0.26	5.6	1.4	1.6
	70	0.32	6.2	1.5	1.7
5F	40	0.17	4.0	1.0	1.2
	50	0.24	4.8	1.1	1.3
	60	0.31	5.5	1.2	1.4
	70	0.38	6.3	1.3	1.5
8Q	40	0.14	7.0	1.1	1.3
	50	0.17	7.7	1.2	1.3
	60	0.20	8.4	1.2	1.4
	70	0.23	9.1	1.3	1.4
8T	40	0.20	7.6	1.0	1.2
	50	0.24	8.0	1.1	1.3
	60	0.27	8.5	1.2	1.4
	70	0.31	8.9	1.3	1.5
8H	40	0.26	7.0	1.0	1.2
	50	0.33	7.6	1.1	1.3
	60	0.39	8.1	1.2	1.4
	70	0.46	8.7	1.3	1.4
8TT	40	0.34	7.0	1.0	1.1
	50	0.43	7.8	1.1	1.2
	60	0.52	8.5	1.2	1.4
	70	0.61	9.3	1.3	1.5
8TQ	40	0.41	7.2	1.0	1.1
	50	0.48	7.9	1.1	1.2
	60	0.55	8.6	1.1	1.3
	70	0.62	9.3	1.2	1.4
8F	40	0.55	7.0	1.1	1.2
	50	0.65	7.5	1.1	1.2
	60	0.74	8.0	1.1	1.3
	70	0.84	8.5	1.1	1.3
10Q	40	0.26	9.5	1.0	1.1
	50	0.28	10.0	1.1	1.2
	60	0.29	10.5	1.1	1.3
	70	0.31	11.1	1.2	1.4
10T	40	0.31	9.5	1.0	1.1
	50	0.36	10.0	1.1	1.2
	60	0.41	10.5	1.2	1.4
	70	0.46	11.0	1.3	1.5
10H	40	0.48	9.7	1.0	1.1
	50	0.53	10.1	1.1	1.2
	60	0.57	10.4	1.1	1.3
	70	0.62	10.8	1.2	1.4
10TT	40	0.63	9.6	1.0	1.1
	50	0.70	9.9	1.1	1.2
	60	0.77	10.3	1.1	1.3
	70	0.84	10.6	1.2	1.4
10TQ	40	0.71	9.5	1.0	1.1
	50	0.77	9.9	1.0	1.2
	60	0.82	10.3	1.1	1.2
	70	0.88	10.7	1.1	1.3
10F	40	0.95	9.6	1.0	1.1
	50	1.06	10.0	1.1	1.2
	60	1.16	10.5	1.1	1.3
	70	1.27	10.9	1.2	1.4

Arc	psi	gpm	Radius	Precip. Rate ☒ (in./hr.)	Precip. Rate ▲ (in./hr.)
12Q	40	0.34	12.0	1.0	1.2
	50	0.39	12.2	1.1	1.3
	60	0.43	12.5	1.2	1.3
	70	0.48	12.7	1.2	1.4
12T	40	0.46	11.5	1.0	1.2
	50	0.50	11.8	1.0	1.2
	60	0.54	12.0	1.1	1.3
	70	0.58	12.3	1.1	1.3
12H	40	0.70	11.5	1.0	1.2
	50	0.75	11.8	1.0	1.2
	60	0.80	12.2	1.1	1.2
	70	0.85	12.5	1.1	1.2
12TT	40	0.90	11.4	1.0	1.2
	50	1.03	11.5	1.1	1.3
	60	1.16	11.5	1.2	1.3
	70	1.29	11.6	1.2	1.4
12TQ	40	1.05	11.4	1.0	1.2
	50	1.14	11.7	1.0	1.2
	60	1.23	12.0	1.1	1.3
	70	1.32	12.3	1.1	1.3
12F	40	1.35	11.5	1.0	1.1
	50	1.49	11.8	1.0	1.2
	60	1.63	12.2	1.1	1.3
	70	1.77	12.5	1.1	1.3
15Q	40	0.53	14.2	1.0	1.2
	50	0.59	14.5	1.1	1.2
	60	0.64	14.8	1.1	1.3
	70	0.70	15.1	1.2	1.3
15T	40	0.72	14.3	1.0	1.2
	50	0.77	14.8	1.0	1.2
	60	0.82	15.2	1.1	1.2
	70	0.87	15.7	1.1	1.2
15H	40	1.10	14.5	1.0	1.2
	50	1.20	14.3	1.1	1.2
	60	1.29	14.0	1.1	1.3
	70	1.39	13.8	1.2	1.3
15TT	40	1.45	14.5	1.0	1.2
	50	1.57	14.8	1.0	1.2
	60	1.68	15.0	1.1	1.2
	70	1.80	15.3	1.1	1.3
15TQ	40	1.60	14.0	0.9	1.0
	50	1.70	14.4	1.0	1.1
	60	1.80	14.8	1.0	1.2
	70	1.90	15.1	1.1	1.2
15F	40	2.20	14.5	1.0	1.2
	50	2.36	14.8	1.0	1.2
	60	2.52	15.1	1.1	1.2
	70	2.68	15.4	1.1	1.3
4X30 SST	40	0.62	4x30	1.0	1.1
	50	0.65	4x30	1.0	1.2
	60	0.67	4x30	1.1	1.3
	70	0.70	4x30	1.1	1.3
4X15 LCS	40	0.32	4x15	1.0	1.2
	50	0.33	4x15	1.1	1.2
	60	0.34	4x15	1.1	1.3
	70	0.35	4x15	1.2	1.3
4X15 RCS	40	0.32	4x15	1.0	1.2
	50	0.33	4x15	1.1	1.2
	60	0.34	4x15	1.1	1.3
	70	0.35	4x15	1.2	1.3
4X18 SST	40	0.36	4X18	1.0	1.1
	50	0.37	4X18	1.0	1.2
	60	0.38	4X18	1.0	1.2
	70	0.39	4X18	1.0	1.2
4X9 LCS	40	0.18	4X9	1.0	1.1
	50	0.19	4X9	1.1	1.2
	60	0.20	4X9	1.1	1.2
	70	0.21	4X9	1.2	1.3
4X9 RCS	40	0.18	4X9	1.0	1.2
	50	0.19	4X9	1.1	1.2
	60	0.20	4X9	1.1	1.2
	70	0.21	4X9	1.2	1.3

PERFORMANCE DATA PRECISION™ SERIES SPRAY NOZZLES

Arc	psi	gpm	Radius	Precip. Rate ☒ (in./hr.)	Precip. Rate ▲ (in./hr.)
5-60°	20	0.04	4.7	1.0	1.15
	30	0.04	5.0	1.0	1.15
	40	0.04	5.0	1.0	1.15
	50	0.05	5.3	1.0	1.14
5Q	20	0.06	4.6	1.0	1.18
	30	0.06	5.0	1.0	1.14
	40	0.07	5.0	1.0	1.16
	50	0.07	5.0	1.0	1.17
5T	20	0.07	4.4	1.0	1.17
	30	0.09	5.0	1.0	1.20
	40	0.09	5.2	1.0	1.15
	50	0.10	5.4	1.0	1.13
5-150°	20	0.07	4.0	1.0	1.18
	30	0.11	5.0	1.0	1.19
	40	0.12	5.2	1.0	1.20
	50	0.13	5.4	1.0	1.20
5H	20	0.10	4.4	1.0	1.15
	30	0.13	5.0	1.0	1.16
	40	0.14	5.1	1.0	1.15
	50	0.14	5.2	1.0	1.14
5-210°	20	0.10	4.4	1.0	1.15
	30	0.15	5.2	1.1	1.23
	40	0.16	5.3	1.1	1.27
	50	0.17	5.5	1.1	1.25
5TT	20	0.14	4.3	1.1	1.26
	30	0.17	5.0	1.0	1.13
	40	0.19	5.0	1.1	1.23
	50	0.19	5.0	1.1	1.25
5TQ	20	0.15	4.3	1.0	1.17
	30	0.20	5.0	1.0	1.16
	40	0.21	5.0	1.1	1.21
	50	0.22	5.0	1.1	1.27
5F	20	0.17	4.0	1.0	1.18
	30	0.26	5.0	1.0	1.16
	40	0.26	5.0	1.0	1.16
	50	0.26	5.0	1.0	1.16
8-60°	20	0.10	7.6	1.0	1.2
	30	0.11	8.0	1.0	1.1
	40	0.12	8.1	1.1	1.2
	50	0.13	8.3	1.1	1.3
8Q	20	0.14	7.0	1.1	1.3
	30	0.17	8.0	1.0	1.1
	40	0.18	8.2	1.0	1.2
	50	0.18	8.4	1.0	1.1
8T	20	0.20	7.6	1.0	1.2
	30	0.22	8.0	1.0	1.1
	40	0.23	8.2	1.0	1.1
	50	0.24	8.3	1.0	1.1
8-150°	20	0.25	7.5	1.0	1.2
	30	0.27	8.0	1.0	1.1
	40	0.28	8.1	1.0	1.1
	50	0.29	8.2	1.0	1.2
8H	20	0.26	7.0	1.0	1.2
	30	0.33	8.0	1.0	1.1
	40	0.34	8.0	1.0	1.2
	50	0.34	8.0	1.0	1.2
8-210°	20	0.33	7.6	1.1	1.3
	30	0.36	8.0	1.1	1.3
	40	0.37	8.1	1.1	1.3
	50	0.38	8.2	1.1	1.3
8TT	20	0.34	7.0	1.0	1.2
	30	0.44	8.0	1.0	1.1
	40	0.46	8.0	1.0	1.2
	50	0.46	8.0	1.0	1.2
8TQ	20	0.41	7.2	1.0	1.1
	30	0.49	8.0	1.1	1.1
	40	0.54	8.0	1.1	1.2
	50	0.55	8.0	1.1	1.2
8F	20	0.55	7.0	1.1	1.2
	30	0.66	8.0	1.0	1.1
	40	0.68	8.0	1.0	1.2
	50	0.71	8.0	1.1	1.2
10-60°	20	0.16	9.5	1.0	1.2
	30	0.17	10.0	1.0	1.1
	40	0.18	10.0	1.0	1.2
	50	0.19	10.0	1.1	1.3
10Q	20	0.26	9.5	1.0	1.1
	30	0.23	10.0	1.0	1.2
	40	0.28	10.2	1.0	1.2
	50	0.28	10.3	1.0	1.2
10T	20	0.31	9.5	1.0	1.1
	30	0.34	10.0	1.0	1.1
	40	0.36	10.0	1.0	1.2
	50	0.37	10.0	1.1	1.2
10-150°	20	0.41	9.8	1.0	1.1
	30	0.43	10.0	1.0	1.1
	40	0.44	10.2	1.0	1.1
	50	0.46	10.4	1.0	1.1
10H	20	0.48	9.7	1.0	1.1
	30	0.51	10.0	1.0	1.1
	40	0.55	10.3	1.0	1.2
	50	0.56	10.4	1.0	1.2
10-210°	20	0.56	9.8	1.1	1.3
	30	0.58	10.0	1.1	1.3
	40	0.60	10.4	1.1	1.2
	50	0.62	10.5	1.1	1.3
10TT	20	0.63	9.6	1.0	1.1
	30	0.69	10.0	1.0	1.2
	40	0.73	10.3	1.0	1.1
	50	0.74	10.4	1.0	1.1
10TQ	20	0.71	9.5	1.0	1.1
	30	0.79	10.0	1.0	1.1
	40	0.84	10.3	1.0	1.1
	50	0.86	10.4	1.0	1.1
10F	20	0.95	9.6	1.0	1.1
	30	1.03	10.0	1.0	1.1
	40	1.08	10.3	1.0	1.1
	50	1.12	10.4	1.0	1.2

Arc	psi	gpm	Radius	Precip. Rate ☒ (in./hr.)	Precip. Rate ▲ (in./hr.)
12-60°	20	0.24	11.5	1.0	1.2
	30	0.25	12.0	1.0	1.2
	40	0.26	12.1	1.0	1.2
	50	0.28	12.2	1.1	1.3
12Q	20	0.34	12.0	1.0	1.2
	30	0.37	12.1	1.0	1.1
	40	0.39	11.4	1.0	1.2
	50	0.39	12.0	1.0	1.1
12T	20	0.46	11.5	1.0	1.2
	30	0.49	12.0	1.0	1.1
	40	0.51	12.2	1.0	1.1
	50	0.52	12.3	1.0	1.1
12-150°	20	0.60	11.6	1.0	1.2
	30	0.62	12.0	1.0	1.2
	40	0.63	12.2	1.0	1.1
	50	0.64	12.3	1.0	1.1
12H	20	0.70	11.5	1.0	1.2
	30	0.74	12.0	1.0	1.1
	40	0.79	12.3	1.0	1.2
	50	0.80	12.4	1.0	1.2
12-210°	20	0.76	11.6	1.1	1.3
	30	0.82	12.0	1.1	1.3
	40	0.84	12.3	1.1	1.2
	50	0.85	12.4	1.1	1.2
12TT	20	0.90	11.4	1.0	1.2
	30	0.99	12.0	1.0	1.1
	40	1.04	12.3	1.0	1.1
	50	1.05	12.4	1.0	1.1
12TQ	20	1.05	11.4	1.0	1.2
	30	1.15	12.0	1.0	1.2
	40	1.19	12.2	1.0	1.2
	50	1.22	12.3	1.0	1.2
12F	20	1.35	11.5	1.0	1.1
	30	1.48	12.0	1.0	1.1
	40	1.59	12.4	1.0	1.1
	50	1.60	12.5	1.0	1.1
15-60°	20	0.35	14.0	1.0	1.2
	30	0.39	15.0	1.0	1.2
	40	0.40	15.1	1.0	1.2
	50	0.42	15.3	1.0	1.2
15Q	20	0.53	14.2	1.0	1.2
	30	0.58	15.0	1.0	1.1
	40	0.60	15.1	1.0	1.2
	50	0.61	15.3	1.0	1.2
15T	20	0.72	14.3	1.0	1.2
	30	0.77	15.0	1.0	1.1
	40	0.81	15.3	1.0	1.2
	50	0.82	15.4	1.0	1.2
15-150°	20	0.92	14.7	1.0	1.2
	30	0.96	15.0	1.0	1.2
	40	1.00	15.2	1.0	1.2
	50	1.10	15.3	1.1	1.3
15H	20	1.10	14.5	1.0	1.2
	30	1.16	15.0	1.0	1.1
	40	1.25	15.4	1.0	1.2
	50	1.28	15.5	1.0	1.2
15-210°	20	1.15	14.5	1.1	1.2
	30	1.20	15.0	1.0	1.2
	40	1.30	15.5	1.0	1.2
	50	1.40	15.6	1.1	1.3
15TT	20	1.45	14.5	1.0	1.2
	30	1.54	15.0	1.0	1.1
	40	1.58	15.2	1.0	1.1
	50	1.61	15.3	1.0	1.1
15TQ	20	1.72	14.5	1.0	1.2
	30	1.78	15.0	1.0	1.1
	40	1.82	15.0	1.0	1.2
	50	1.90	15.3	1.0	1.2
15F	20	2.20	14.5	1.0	1.2
	30	2.31	15.0	1.0	1.1
	40	2.35	15.2	1.0	1.1
	50	2.40	15.3	1.0	1.1
4X30 SST	20	0.62	4x28	1.0	1.1
	30	0.66	4x30	1.1	1.2
	40	0.67	4x30	1.1	1.2
	50	0.68	4x30	1.1	1.3
4X15 LCS	20	0.32	4x15	1.0	1.2
	30	0.33	4x15	1.1	1.2
	40	0.34	4x15	1.1	1.3
	50	0.34	4x15	1.1	1.3
4X15 RCS	20	0.32	4x15	1.0	1.2
	30	0.33	4x15	1.1	1.2
	40	0.34	4x15	1.1	1.3
	50	0.34	4x15	1.1	1.3
4X18 SST	20	0.36	4X18	1.0	1.1
	30	0.37	4X18	1.0	1.1
	40	0.38	4X18	1.0	1.2
	50	0.38	4X18	1.0	1.2
4X9 LCS	20	0.18	4X9	1.0	1.1
	30	0.19	4X9	1.0	1.2
	40	0.20	4X9	1.1	1.2
	50	0.20	4X9	1.1	1.1
4X9 RCS	20	0.18	4X9	1.0	1.2
	30	0.19	4X9	1.0	1.2
	40	0.20	4X9	1.1	1.2
	50	0.20	4X9	1.1	1.2

SUBSURFACE IRRIGATION

Subsurface irrigation provides water directly to the root zone to ensure maximum utilization, minimizing the waste from evaporation and surface runoff. These kits provide everything you need to set up a tee box, bunker system, lake perimeter or anywhere else a low volume subsurface system applies.

FEATURES & BENEFITS

Pressure Compensating Emitters

Every emitter is equipped with a pressure compensating device to ensure the optimum operating pressure and precise flow rates are distributed from each point throughout the zone regardless of distance or elevation change.

Treflan® Root Inhibitor

Each emitter is impregnated with Treflan, a powerful root inhibitor than prevents roots from entering and clogging the emitter opening. This ensures even water distribution uniformity and maximum efficiency from each point of emission.

Filtration and Pressure Regulation Provided

Each kit includes a Y filter with 150 mesh/100 micron element to prevent debris contamination and a 25 psi fixed regulator to eliminate damage from high pressure spikes.

Flush Valve

Provides a momentary high velocity in the tubing to move debris out of the piping system to eliminate emitter clogging every time the zone is activated.

Air Relief Valve
Opens at the end of every watering cycle allowing clean air to enter the system and eliminate emitter clogging from siphoning.

SPECIFICATIONS

Drip System Specifications-Bunkers Only

- Flow range:
  - Low flow: 0.1 to 8.0 gpm
  - High flow: 2.0 to 20.0 gpm
- DL2000™ range:
  - Low flow: 12' to 1000'
  - High flow: 250' to 2500'
- Pressure compensating emitter: 0.5 gph
- Emitter spacing – 12"
- DL2000™ maximum run length: 250'
- Application rate (12" x 12" spacing): 0.85" per hour

Benefits On Bunkers

- Uniformly applies water to areas such as fingers
- Minimizes runoff
- Eliminates overspray into bunker keeping sand dry
- Cycle/soak allows for application on steep slopes
- Reduces bunker cave-ins
- Saves time, labor and money by eliminating the need for hand-watering

Benefits On Tees

- Applies water directly to the root zone allowing turf to stay dry
- Water is applied precisely to the tee box without watering the surrounding area

Bunker System Components

- DL2000™ subsurface dripline
- Drip Zone Valve Kit – includes control valve, pressure regulator, Y-filter and manual ball valve
- Air Vent Assembly – pre-assembled and ready to install (bunker only)
- Required inlet/outlet fittings
- Flush Assembly Fittings (8 gpm) 2 psi sealing flush valve (bunker only)
- Installation Fittings:
  - Includes Loc-Eze® tees, couplings, elbows and end clamps
  - 10' of Blue Stripe® polyethylene tubing
  - Soil staples for secure tubing placement
- Pipe thread tap

Warranty

- Two years

Specifying Information—Subsurface Irrigation

Model Number	*Description*
SSDS-LF-500	DL2000 500' Drip System (Bunker)—Low Flow
SSDS-HF-1000	DL2000 1000' Drip System (Bunker)—High Flow
RGP-212-05	DL2000 500' (Roll, 0.5 GPH), 12" Spacing
Example: A 500' DL2000 Drip System, would be specified as: **SSDS-LF-500**	

SWING JOINTS

Toro offers a full line of swing joints that cover all Golf sprinkler thread types. Swing joints provide the flexibility to align the sprinkler to proper grade and level positioning to ensure optimum water use through maximum nozzle distribution uniformity.

FEATURES & BENEFITS

Minimize Friction Loss

1", 1¼" and 1½" models are available to cover flows exceeding 80 Gpm, and minimize friction loss to ensure optimum pressure is available at each sprinkler.

Standard 2X90 And Ultra 4X90 Outlet Configurations

The standard 2x90 models provide two 90's at the outlet for alignment in two directions and the Ultra 4x90 models provide four 90's at the outlet for maximum alignment flexibility in four directions.

Saddle And Glue Tee Models

Glue tees for PVC piping applications and saddle tees for HDPE and PVC piping applications. Both tee styles are available with 1", 1¼" and 1½" double o-ring sealing outlets.

Quick Coupler Models

All swing joint styles are available with a quick coupler outlet that includes both an anti-rotation and position stabilizing feature to ensure the quick coupling valve stays secure during key installation and removal.

1¼" Female ACME x 1" Male ACME Adapter
Allows you to upgrade existing Rain Bird® Eagle 700 1¼" sprinklers to any Toro 800S or DT Series Sprinkler. P/N TA36-132

Durability And Reliability
Constructed from schedule 80 PVC for durability and provide double o-ring seals on all swing fittings to ensure a lifetime of reliability and leak free performance.

Additional Features

- Schedule 80 PVC construction
- Double o-ring swivel joints
- Low friction loss characteristics
- 315 psi pressure rating
- 800 psi burst pressure safety rating
- Standard models with 2X90 outlet configuration
- Ultra models with 4X90 outlet for maximum alignment flexibility
- 3 inlet fittings styles; ACME, male thread and 4" spigot
- 2 outlet fitting styles; ACME and male thread
- 12" and 18" lay lengths
- Saddle Tee models; 2" tee w/ 1", 1¼" or 1½" outlet
- Glue Tee models; 2" tee w/ 1", 1¼" or 1½" outlet
- Glue 90°models: 2" 90° w/1", 1¼" or 1½" outlet
- Quick coupler models w/ Dura-lock anti-rotation feature
- Compatible with all brands of service and saddle tees

1", 1¼" and 1½"

Standard 2x90 and Ultra 4x90

Warranty

- Five years
- Toro Golf sprinkler warranty extended to 5 years when purchased and installed with a Toro Swing Joint

Quick Coupler

Glue tees, Saddle tees

Toro Tool Tip:

Use a 1¼" hole saw for the 1" Saddle Tee.

Use a 1½" hole saw for the 1¼" and 1½" Saddles.

Specifying Information—Toro Swing Joints

TSJ-XXXX-XX-XX-X-XXX*							
Description	***Inlet Size***	***Inlet Type***	***Size***	***Length***	***Number of Elbows***	***Outlet Size***	***Outlet Type***
TSJ	**XX**	**XX**	**XX**	**XX**	**X**	**XX**	**X**
TSJ— Toro Swing Joint	10—1" 12—1.25" 15—1.5"	M—MIPT (male pipe thread) S—4" Spigot A—ACME thread GE—Glue elow GT—Glue Tee ST—Saddle Tee	Blank—same as inlet size 10—1" 12—1.25" 15—1.5"	12—12" Lay Length 18—18" Lay Length	3—Standard Unibody 4—Standard Unibody for Saddle Tees 5—Ultra Unibody 6—Ultra Unibody for Saddle Tees	10—1" 15—1.5"	M—MIPT (Male pipe thread) A—ACME thread QC—Quick Coupler
Example: A Toro 1½" Swing Joint with an ACME inlet, 12" lay length, 3 elbows (standard uni-body) and 1½" ACME outlet fitting would be specified as: **TSJ-15A-12-3-15A**							

995-15 Selector tool
- All electric golf sprinklers
- Allows user to manually turn the sprinkler "ON", turn or leave it "OFF" or place it into the "AUTO" position awaiting a command from the controller

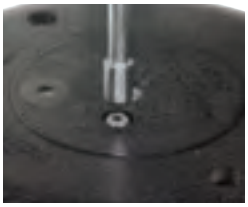
995-83 Multi Purpose tool
- All Golf sprinklers
- Riser pull up for INFINITY, FLEX800, DT and 800S Series
- Riser screen removal on all models
- Upper snap ring remover on all models

PNOZZTOOL
Riser Pull Up Tool
- Used on 590GF sprays

Riser Removal Tools
- 995-06 drive assembly extraction tool 630, 650 and 690 models
  - Threads into the nozzle base and allows removal of the drive from the body
- 995-85 drive assembly extraction tool 730,750,760,780,860S,880S
  - Threads onto the drive output shaft and allows removal of the drive from the body

995-82 Arc adjustment tool, 3/32" Allen Wrench
- 765,785,865S,885S Arc adjustment of the part circle drives
- INFINITY, FLEX800, DT and 800S Series. Adjustment of the radius reduction screw

Valve Removal Tools
- 995-08 All 1" golf models and 640
- 995-09 All 1.5" models and 690



Nut Drivers
- **995-105** 5/16" INFINITY, FLEX800, DT and 800S Series TruJectory adjustment on INFX5-6/FLX5-6 models
  - Inner, intermediate and back nozzle removal on all DT and 800S models
- **995-99** 5/8"
  - Series Dual trajectory selection
  - Main nozzle removal on all models
- **995-79** 7/16" 834S/854S pre August 2007
  - Inner, intermediate and back nozzle removal
  - 650/760/780/860S/880S Inner, intermediate and back nozzle removal
- **995-81** 9/16" 760/780 Series Main nozzle removal
- **995-80** 1/2" 760/780/860S/880S Nozzle base jam nut removal
- **995-52** 1/4" 660/680 Drive plate nut removal
- **995-53** 3/8" 660/680 Cap nut removal

Valve Insertion Tools
Aligns and Installs Valve into the Body
- 995-xx 640 VIH body
- 995-76 All 1" golf models
- 995-101 All 1.5" golf models
- 995-12 690 body
- 995-20 690 with rubber cover
- 118-1843 INFINITY 50 models
- 118-1844 INFINITY 30 models

995-100 Valve Snap Ring Pliers with Screen Remover
- All Golf sprinklers Lower snap ring removal on all models
- Rock screen removal on all INFINITY, FLEX800, DT and 800S Series
- Valve removal on all models

Riser Hold Up Tools
Allow for Nozzle Servicing
- 118-0954 Riser hold up tool, red
- 995-55 All 700 models
- 995-102 Universal hold up tool, all 700, 800S, DT, INFINITY and FLEX800 models

VALVES AND VALVE BOXES COMPARISON CHARTS

Valve Comparison Chart

Model		220G Brass Series	P220G Series	P220GS Series Scrubber
Catalog Pages		78-79	80-81	80-81
Flow Range		5.0-180 gpm	5.0-300 gpm	5.0-180 gpm
Operating Pressure		10-220 psi max	10-220 psi max	10-220 psi max
Conditions	Electrically Activated Systems	X	X	X
	Pressure Regulated Systems	X	X	X
	Effluent Water	X	X	X
Sizes	1"	X	X	X
	1 1/4"	X		
	1 1/2"	X	X	X
	2"	X	X	X
Configurations	Inline/Globe	X	X	X
	Angle/Globe		X	X
Inlet/Outlet	Threaded (Female)	X	X	X
Features	Manual Flow Control	X	X	X
	Pressure Regulation	X	X	X
	Internal Manual Bleed	X	X	X
	External Manual Bleed (Flush)	X	X	X
Body Construction	Glass-filled Nylon		X	X
	Brass	X		
Warranty		5 Years	5 Years	5 Years

220G BRASS SERIES VALVES

The 220G Brass Series valves provide extra durability in the most challenging environments on the course. With precise pressure regulation the optimum operating pressure and exact flow requirements are delivered to every sprinkler ensuring maximum efficiency and uniformity.

FEATURES & BENEFITS

EZReg® Pressure Regulating System

Can be adjusted from 5-100 Psi to provide the optimum operating pressure for every zone.

Spike Guard™ Solenoid

With 20,000 volt lightning rating, it virtually eliminates the need for solenoid replacements. And with half the amperage draw of traditional solenoids you can run twice as many valves simultaneously, reduce the cost of wire during installation or increase the distance from controller to valve.

Internal Manual Bleed

Ensures the optimum pressure of the system even when being operated manually.

Self Flushing And Serviceable Filter

A 120 mesh stainless steel screen in the flow of water is continually being cleaned any time the valve is in operation. Serviceable from the side of the valve the filter can be removed without valve disassembly.

220G-27-06

220G-27-04

Additional Features

- Diaphragm stem guide
- Ingot brass and stainless steel construction
- Pressure regulates in electric and manual modes, serviceable under pressure
- Forward-flow design for more precise regulation
- Standard, built-in Schrader-type valve for downstream pressure verification
- Anti-vandal dust cap on pressure-regulating models
- No external tubing
- External manual bleed for system flushing
- Manual flow control: adjustable to zero flow
  - – Stainless steel diaphragm support ring for minimum wear
  - – Stainless steel solenoid seat for longer life and positive shutoff
  - – Low-power requirement for longer wire runs

SPECIFICATIONS

Operational

- Flow Range:
  - – 1" – 5 to 40 gpm – 1¼" – 20 to 100 gpm
  - – 1½" – 20 to 130 gpm – 2" – 30 to 180 gpm
- Operating Pressure (220 psi maximum pressure rating):
  - – Electric – 10 to 220 psi
- Pressure regulating:
  - – Outlet: 5 to 100 psi ± 3 psi
- Inlet: 10 to 220 psi
- Minimum pressure differential (between inlet and outlet) for pressure regulation: 10 psi (2" is 20 psi)
- Burst pressure safety rating: 750 psi
- Body style:
  - – Globe valve – 1", 1¼", 1½", 2" female threads
- Spike Guard™ Solenoid: 24 VAC (50/60 Hz) Standard
  - – Inrush: 60 Hz: 0.12 amps
  - – Holding: 60 Hz: 0.1 amps
- DC latching – momentary low voltage pulse

Dimensions

- 1" – 5¼" H x 5" W
- 1¼" – 6½" H x 6" W
- 1½" - 6½" H x 6" W
- 2" – 7½" H x 7" W

Warranty

- Five years

VALVE WIRE SIZING CHART

Maximum One-way Distance (in ft.) Between Controller and Valve Using Spike-Guard™ Solenoid*

Ground Wire	Control Wire						
	18	16	14	12	10	8	6
18	2040	2520	2940	3280	3540	3720	3860
16	2520	3260	4000	4660	5220	5620	5920
14	2940	4000	5180	6360	7420	8300	8960
12	3280	4660	6360	8240	10100	11800	13180
10	3540	5220	7420	10100	13180	16060	18770
8	3720	5260	8300	11800	16060	20800	25540
6	3860	5960	8960	13180	18700	25540	33080

** Solenoid Model: 24 V ac*
Pressure: 150 Psi
Voltage Drop: 4 V
Minimum Operating Voltage: 20 V
Amperage (peak) 0.12 A

Fabric Reinforced Diaphragm
Provides superior performance and extended life without tearing in high pressure applications.

220G BRASS SERIES FRICTION LOSS DATA

Model	Type	Gpm Flow														
		5	10	15	20	30	40	50	60	70	80	100	120	150	170	180
1"	Electric	1.75	2.0	2.2	3.10	5.05	7.80									
1¼"	Electric				1.85	2.50	2.70	3.50	4.10	5.6						
1½"	Electric				2.15	2.45	2.80	3.05	3.80	5.0	6.55					
2"	Electric					3.05	3.20	2.90	2.95	3.25	3.40	4.50	6.55	10.10	13.45	14.85

Notes: *For optimum performance when designing a system, calculate total friction loss to ensure sufficient downstream pressure. For optimum regulation performance, size regulating valves toward the higher flow ranges. Flow rates are recommended not to exceed 5 psi loss.*

Specifying Information—220G Brass Series

220G-27-0XXX			
Type	*Body Style*	*Size*	*Optional*
220G	**27**	**0X**	**XX**
220G—220G Brass Series Valve	27—NPT, Pressure-regulated (5–100 Psi)	4—1" 5—1¼" 6—1½" 8—2"	DL—Latching Solenoid for 2-wire GDC Systems E—Effluent
Example: A 1" NPT pressure-regulated, 220G Brass Series Valve with 60 Hz solenoid, would be specified as: **220G-27-04**			

P220G AND P220GS SERIES VALVES

The P220G and P220GS Series provide a full family of plastic valves that can deliver the water to meet the challenging needs of today's courses. With precise pressure regulation these valves deliver the optimum pressure and flow requirements to every sprinkler on the zone ensuring maximum uniformity of the water to the turf.

FEATURES & BENEFITS

EZReg® Pressure Regulating System

Can be adjusted from 5-100 Psi to deliver the optimum pressure for every need.

Spike Guard™ Solenoid

With its 20,000 volt lightning rating, it virtually eliminates the need for solenoid replacements in high lightning environments.

Internal Manual Bleed

Ensures the optimum pressure of the system even when being operated manually.

Double-beaded Fabric Reinforced Diaphragm

Provides superior performance and extended life without tearing in high-pressure golf applications.

Self Cleaning Metering Pin
A self-cleaning feature that operates two times during every valve cycle ensuring smooth positive opening and closing.

Additional Features

- Glass-filled nylon and stainless steel construction
- Internal and External bleed
- No external tubing
- Standard, built-in Schrader-type valve for downstream pressure verification
- Flow control independent of solenoid
- Self-aligning bonnet to ensure correct installation
- Self-cleaning, stainless steel metering rod
- Low-flow capability down to 5 gpm
- Low-power requirement for longer wire runs

VALVE WIRE SIZING CHART

Maximum One-way Distance (in ft.) Between Controller and Valve Using Spike-Guard™ Solenoid*

Ground Wire	Control Wire						
	18	16	14	12	10	8	6
18	2040	2520	2940	3280	3540	3720	3860
16	2520	3260	4000	4660	5220	5620	5920
14	2940	4000	5180	6360	7420	8300	8960
12	3280	4660	6360	8240	10100	11800	13180
10	3540	5220	7420	10100	13180	16060	18770
8	3720	5260	8300	11800	16060	20800	25540
6	3860	5960	8960	13180	18700	25540	33080

** Solenoid Model: 24 V ac*
Pressure: 150 psi
Voltage Drop: 4 V
Minimum Operating Voltage: 20 V
Amperage (peak) 0.12 A

ACT™ System
Toro's patented technology employs a constantly rotating turbine to clean the metering/filtration area. This ensures that dirt, algae and particulates do not impede valve performance.

SPECIFICATIONS

Operational

- Flow Range:
  - 1" – 5 to 40 gpm
  - 1½" – 30 to 100 gpm
  - 2" – 80 to 180 gpm
- Operating Pressure (220 psi maximum pressure rating):
  - 1" – 1½" – 10 to 220 psi
  - 2" – 20 to 220 psi
- EZReg® Pressure regulating:
  - Outlet: 5 to 100 psi ± 3 psi
- Inlet: 10 to 220 psi
- Minimum pressure differential (between inlet and outlet) for pressure regulation: 10 psi
- Burst pressure safety rating: 750 psi
- Body styles:
  - Globe/Angle – 1", 1½", 2" female threads
- Spike Guard™ Solenoid: 24 VAC (50/60 Hz) Standard
  - Inrush: 60 Hz: 0.12 amps
  - Holding: 60 Hz: 0.1 amps
- DC latching – momentary low voltage pulse

Dimensions

- 1" – 6¾" H x 3⅝" W
- 1½" – 7¼" H x 3⅝" W
- 2" – 9½" H x 6⅛" W

Warranty

- Five years

P220G SERIES FRICTION LOSS DATA*

Size	Configuration	gpm Flow																
		5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	180
1"	Globe	4.00	4.20	3.20	4.10	7.20												
	Angle	4.00	4.20	3.10	2.70	4.80												
1½"	Globe				1.60	2.30	3.60	5.20	7.00	9.20	11.20	13.60	16.40					
	Angle				1.30	1.60	2.80	4.00	5.50	7.10	8.90	10.90	13.50					
2"	Globe									2.10	2.70	3.30	4.00	4.80	5.60	6.50	7.50	8.70
	Angle									1.20	1.60	2.00	2.40	2.80	3.30	3.90	4.40	5.20

P220GS SERIES FRICTION LOSS DATA*

Size	Configuration	gpm Flow															
		5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
1"	Globe	4.63	4.74	3.10	6.05	10.75											
	Angle	4.14	4.64	2.54	5.53	9.46											
1½"	Globe			1.14	1.56	2.85	4.36	6.28	8.57	11.20	14.03	17.20	20.46				
	Angle			0.95	1.51	2.28	3.69	5.29	6.97	9.26	11.80	14.60	17.40				
2"	Globe									3.57	4.62	5.33	6.80	8.20	9.02	10.46	11.61
	Angle									2.79	3.50	4.41	5.62	6.39	7.35	8.81	9.37

Note: *For optimum performance when designing a system, be sure to calculate total friction loss to ensure sufficient downstream pressure. For optimum regulation performance, size regulating valves toward the higher flow ranges. Flow rates are recommended not to exceed 5 Psi loss.*

Specifying Information—P220G and P220GS Series

P220GS-27-0X-XXX			
Type	*Body Style*	*Size*	*Optional*
P220Gs	**27**	**0X**	**XXX**
P220G—P220G Series Plastic Valve P220GS—P220GS Plastic Scrubber Valve	27—NPT, Pressure-regulated (5–100 Psi)	4—1" 6—1½" 8—2"	E—Effluent DL—DC Latching Solenoid for GDC System DLE—DC Latching Solenoid for GDC System, Effluent
Example: A 1" P220G Series plastic electric, pressure-regulating valve with a 60 Hz solenoid, would be specified as: **P220G-27-04**			

TORO® VALVE BOXES

Valve boxes are used for practical, aesthetic and security reasons wherever valves or off-fairway GDC modules need to be installed below grade but remain accessible for monitoring or service. Toro offers a full line of valve boxes that will fit valves up to 4" and 1-, 2- and 4- station GDC modules.

FEATURES & BENEFITS

T-lip Lid Design

The T-lip lid design keeps dirt out to prevent jamming and provides improved grip for lid removal and easy access to the equipment inside. The secure snap fit and bolt retention ensure that only authorized personnel will have access.

Wide Range Of Sizes

Toro offers a wide range of round and rectangular boxes to meet every need. 6", 7" and 10" round; and 12" x 17" and 15" x 21" rectangular in both 12" standard depth and 6" shallow depth. With the reverse stack capability and rectangular 6" extensions tackling deeper installations can be easily accomplished.

Variety of Colors

Toro valve boxes and covers come in a wide variety of colors to blend into the surrounding environment or to identify specific applications. Green for grass, tan for sand and purple for non-potable water applications. Black and brown to blend in with a variety of soils and mulches and gray for electrical applications.

Durable Construction

Valve boxes are constructed of H.D.P.E. (High-Density Polyethylene) with heavy-duty wall sections designed to provide a secure enclosure to protect your equipment investment.

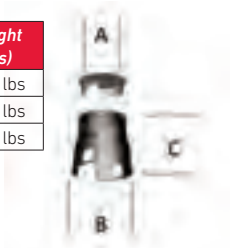
Reverse Stack
Allows for deeper installations in an initial 12" then 24" increments.

Rectangular Extension Boxes
Rectangular extensions allow for deeper installation in 6" increments

Specifying Information–Round Valve Boxes

TVB-XXRND-XX		
Type	**Size**	**Color Description**
TVB	**XXRND**	**XX**
TVB—Toro Valve Box	6—6" Round 7—7" Round 10—10" Round	Blank— Green lid and black box G—Green lid and box GY—Gray lid and box (electrical) T—Tan lid and box E—Purple lid and box (effluent) BK—Black lid and box BR—Brown lid w/black box
Example: A Toro 7" round valve box for effluent water applications would be specified as: **TVB-7RND-E**		

Description	A Length	B Width	C Height	Weight (lbs)
6"	6.3"	8.1"	9.0"	1.15 lbs
7"	6.8"	9.3"	9.0"	1.80 lbs
10"	9.9"	13.0"	10.3"	3.39 lbs



Specifying Information—Rectangular Valve Boxes

TVB-XXXX-XX-XX			
Type	**Size**	**Height**	**Color Description**
TVB	**XXXX**	**XX**	**XX**
TVB—Toro Valve Box	1217—12"X17" 1521—15"X21"	6—6" High 12—12" High	Blank— Green lid and black box G—Green lid and box GY—Gray lid and box (elect.) T—Tan lid and box E—Purple lid and box (effluent) BK—Black lid and box BR—Brown lid w/black box
Example: A Toro 12x17x6 rectangular valve box for effluent water applications would be specified as: **TVB-1217-6-E**			

Discription	A Length	B Width	C Height	Weight (lbs)
12x17x6	18.8"	13.8"	6.8"	6.56 lbs
12x17x12	21.0"	16.0"	12.3"	9.05 lbs
15x21x6	24.3"	18.8"	7.2"	8.75 lbs
15x21x12	25.7"	19.1"	12.3"	12.11 lbs

Specifying Information—Rectangular Extensions

TVB-XXXX-EXT6BOX-XX			
Type	**Size**	**Height**	**Color Description**
TVB	**XXXX**	**EXT6BOX**	**XX**
TVB—Toro Valve Box	1217—12"X17" 1521—15"X21"	EXT6BOX—6" High	Blank— Black box G—Green box GY—Gray box (elect.) T—Tan box E—Purple box (effluent)
Example: A Toro 6" extension for a 12"x17" tan valve box would be specified as: **TVB-1217-EXT6BOX-T**			

Discription	A Length	B Width	C Height	Weight (lbs)
12x17x6	18.8"	13.8"	6.8"	6.71 lbs
15x21x6	24.3"	17.8"	6.9"	8.89 lbs

Specifying Information–Round Valve Box Separates

TVB-XXXXX-XX		
Type	**Size Box or Lid**	**Color Description**
TVB	**XXXXX**	**XX**
TVB—Toro Valve Box	6LID—6" Round lid 7LID—7" Round lid 10LID—10" Round lid BOX6—6" Box (black only) BOX7—7" Box (black only) BOX10—10" Box (black only)	G—Green lid GY—Gray lid (electrical) T—Tan lid E—Purple lid (effluent) BK—Black lid BR—Brown lid
Example: A Toro 7" round valve box lid for effluent water applications would be specified as: **TVB-7LID-E**		

Description	A Length	B Width	C Height	Weight (lbs)
6" lid	6.3"	8.1"	1.2"	.31 lbs
7" lid	6.8"	9.3"	1.7"	.52 lbs
10" lid	9.9"	13.0"	2.1"	1.13 lbs

Description	A Length	B Width	C Height	Weight (lbs)
6" box	6.3"	8.1"	9.0"	.77 lbs
7" box	6.8"	9.3"	9.0"	1.19 lbs
10" box	9.9"	13.0"	10.3"	2.26 lbs

Specifying Information—Rectangular Valve Box Separates

TVB-XXXX-LID-XX			
Type	**Size**	**Height**	**Color Description**
TVB	**XXXX**	**LID**	**XX**
TVB—Toro Valve Box	1217—12"X17" 1521—15"X21"	LID—Lid	Blank— Green lid G—Green lid GY—Gray lid (elect.) T—Tan lid E—Purple lid (effluent) BK—Black lid BR—Brown lid
Example: A Toro 12x17 rectangular valve box lid for effluent water applications would be specified as: **TVB-1217-LID-E**			

TVB-XXXX-XXXXX		
Type	**Size**	**Height**
TVB	**XXXX**	**XX**
TVB—Toro Valve Box	1217—12"X17" 1521—15"X21"	6BOX—6" High valve box 12BOX—12" High valve box
Example: A Toro 12x17X6 rectangular valve box would be specified as: **TVB-1217-6BOX-BK**		

Discription	A Length	B Width	C Height	Weight (lbs)
12"x17" lid	16.9"	11.8"	2.0"	2.73 lbs
15"x21" lid	21.3"	14.9"	1.9"	3.23 lbs
12"x17"x6" box	18.8"	13.8"	6.8"	3.83 lbs
12"x17"x12" box	21"	16"	12.3"	6.32 lbs
15"x21"x6" box	24.3"	17.8"	6.9"	5.66 lbs
15"x21"x12" box	25.7"	19.1"	12.3"	8.88 lbs

TORO® DRY BOXES

TVB-1217-DB (Dry Box)
Dual bolt retention (with covers) to ensure proper sealing and vandal resistance.

Heavy duty lid construction molded from High Density Polyethylene (H.D.P.E), available in Green, Tan, Purple, Black, Gray and Brown.

TVB-1217-DBAP
Optional accessory plate attaches directly to the lid and allows attachments of various components like GDC modules, elec/hyd converters, battery operated controllers and more.

Dual seal lid design keeps water and critters from creeping in from the top.

Heavy duty 12"x 17" x 12" box construction molded from High Density Polyethylene (H.D.P.E), available in Green, Tan, Purple, Black, Gray and Brown.

TVB-1217-DBDS
Optional dirt skirt attaches directly to the bottom of the valve box and provides an outer seal to prevent intrusion from burrowing rodents, water and critters.

Specifications

Static Vertical Load Rating:
SCTE – Light Duty, Pedestrian

Properties of Base Material	ASTM Test Method	HDPE
Tensile Strength	D-638	2700-4,400 psi (Typical Range)
Flexural Modulus	D-790	Minimum 140,000 not to exceed 24,000 psi
Notched Izod Impact Strength	D-256	0.5 - 3.0 (Typical Range)
Deflection Temperature @ 66Psi	D-648	150-200 F (Typical Range)
Density	D-792	Minimum 0.95- not to exceed 0.965
Electrical Dielectric Strength	D-149	400-600 V/mil (Typical Range)
Chemical Resistance	D-543	Very Resistant
Water Absorption	D-570	Less than 1% weight change

Warranty
• Five years

Specifying Information—Dry Box Valve Boxes

TVB-1217-12DB-XX			
Type	*Size*	*Height*	*Color Description*
TVB	**1217**	**12DB**	**XX**
TVB—Toro Valve Box	1217—12"X17"	12DB—12" High Dry Box	Blank— Green lid and black box G—Green lid and box GY—Gray lid and box (elect.) T—Tan lid and box E—Purple lid and box (effluent) BK—Black lid and box BR—Brown lid w/black box
Example: A Toro 12"x17"x12" valve box for electrical applications would be specified as: **TVB-1217-12DB-GY**			

Discription	*A Length*	*B Width*	*C Height*	*Weight (lbs)*
12DB	21.0"	16.0"	12.3"	9.8 lbs

Discription	*A Length*	*B Width*	*C Height*	*Weight (lbs)*
DBAP	11.5"	8.5"	.2"	0.99 lbs
DBDS	19.8"	14.5"	1.3"	2.8 lbs

Accessories	
TVB-1217-DBAP	DRY BOX Accessory Plate
TVB-1217-DBDS	DRY BOX Dirt Skirt

470 Quick Coupler Valves

Whether it's for hand watering the hot spots, fertilizer wash in, washing down equipment or filling the sprayer and lakes the 400 Series provides a full family of quick coupling valves and accessories that connects you directly to the main water source to fill all your hand watering needs.

FEATURES & BENEFITS

- Full range of flows from 0 to 100 gallons per minute
- ¾", 1" and 1½" one- and two-piece single-lug models including ACME thread key connections to meet a variety of installation requirements
- Hose swivel provides 360° movement without hose tangling for ease of use
- A variety of sizes meet various applications
- Metal and vinyl locking and non-locking covers
- Effluent (lavender-colored) locking cover

Warranty
• Five years

Ordering Information—Quick Coupler Valve Accessories

Order Number	Description
463-01	1/2" Female, 3/4" Male, Single-lug Coupler Key
464-01	3/4" Female, 1" Male, Single-lug Coupler Key
464-02	1" Female, Single-lug Coupler Key
464-03	1" ACME Thread Coupler Key
465-01	1 1/4" Inlet, 3/4" Female, 1" Male, Single-lug Coupler Key
466-01	1 1/4" Female, 1 1/2" Male, Single-lug Coupler Key
477-00	3/4" NPT x 3/4" MHT Hose Swivel
477-01	1" NPT x 3/4" MHT Hose Swivel
477-02	1" NPT x 1" MHT Hose Swivel

470 SERIES FRICTION LOSS DATA

	gpm Flow											
	10	15	20	25	30	35	40	50	60	70	85	100
Model 473	1.5	3.1	5.3	8.5								
Model 474			1.1	2.2	3.6	5.7	8.0					
Model 475				1.0	1.8	2.7	3.6	6.4	9.8			
Model 476							1.0	1.7	2.6	3.6	5.6	8.8

Note: *For optimum sprinkler performance when designing a system, be sure to calculate total friction loss to ensure sufficient downstream pressure. Flow rates are recommended not to exceed 5 Psi loss. Values listed in Psi.*

Specifying Information—Quick Couplers

Toro Model Number	Description	Inlet Size NPT Threads	Body Type	Outlet Key Size	Corresponding Key(s)	Valve Cover Type	Corresponding Swivel(s)*		
							477-00	477-01	477-02
473-00	QCV .75, SS CVR	3/4"	1 Piece	3/4"	463-01	Stainless Steel	A	B	B
474-00	QCV 1, SS CVR	1"	1 Piece	1"	464-01 & 464-02	Stainless Steel	B	A	A
474-01	QCV 1, VYL CVR	1"	1 Piece	1"	464-01 & 464-02	Yellow Vinyl, Spring Loaded	B	A	A
474-03	QCV 1, VYL CVR, W/LK	1"	1 Piece	1"	464-01 & 464-02	Yellow Vinyl, Locking, Spring Loaded	B	A	A
474-04	QCV 1, LAV VYL CVR	1"	1 Piece	1"	464-01 & 464-02	Lavender Vinyl, Locking, Spring Loaded	B	A	A
474-21	QCV 1, VYL CVR, 2PC	1"	2 Piece	1"	464-01 & 464-02	Yellow Vinyl, Spring Loaded	B	A	A
474-24	QCV 1, LAV VYL CVR, 2PC	1"	2 Piece	1"	464-01 & 464-02	Lavender Vinyl, Locking, Spring Loaded	B	A	A
474-40	QCV 1, SS CVR, ACME	1"	1 Piece	1"	464-03	Stainless Steel	B	A	A
474-41	QCV 1, VYL CVR, ACME	1"	1 Piece	1"	464-03	Yellow Vinyl, Spring Loaded	B	A	A
474-44	QCV 1, LAV VYL CVR, W/LK, ACME	1"	1 Piece	1"	464-03	Lavender Vinyl, Locking, Spring Loaded	B	A	A
475-00	QCV 1.25, SS CVR	1"	1 Piece	1 1/4"	465-01	Stainless Steel	B	B	B
475-01	QCV 1.25, VYL CVR	1"	1 Piece	1 1/4"	465-01	Yellow Vinyl	B	B	B
476-00	QCV 1.5, SS CVR	1 1/2"	1 Piece	1 1/2"	466-01	Stainless Steel	B	B	B
476-01	QCV 1.5, VYL CVR	1 1/2"	1 Piece	1 1/2"	466-01	Yellow Vinyl, Spring Loaded	B	B	B
476-04	QCV 1.5, LAV VYL CVR	1 1/2"	1 Piece	1 1/2"	466-01	Lavender Vinyl, Locking, Spring Loaded	B	B	B

TWILIGHT™ GOLF CUP AND PERIMETER LIGHTING

The Twilight™ Golf Cup promotes twilight putting and evening special events. Highlight the beauty of the course to attract special events to the venue and drive additional revenue. The Twilight™ Golf Cup will set you apart from your competition by lighting up the putting green allowing members, guests and customers to remain longer and enjoy other attractions your facility has to offer like dining, lounges and the Pro Shop.

FEATURES & BENEFITS

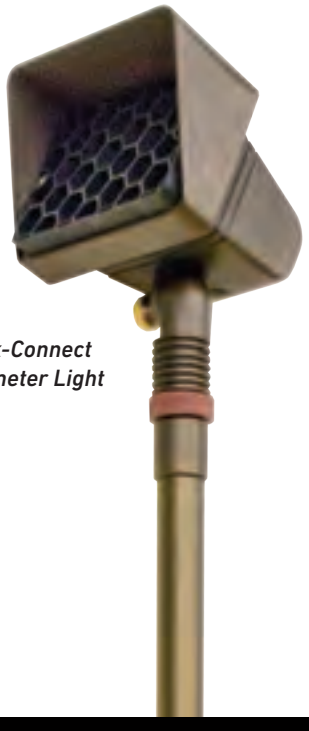
Twilight Golf Cup

The wireless Twilight™ Golf Cup is sized to easily install into any standard cup hole. Convenient battery operation and wireless technology makes it quick to install. With high illumination, energy efficient LED lamps, and a proprietary optical lens, the flag and cup placements pop off the green. Their Lithium–Ion battery will provide illumination for a full eight hours and requires about five hours charge time to achieve full capacity. Charger charges up to three golf cups at once.

Quick-Connect Perimeter Lighting

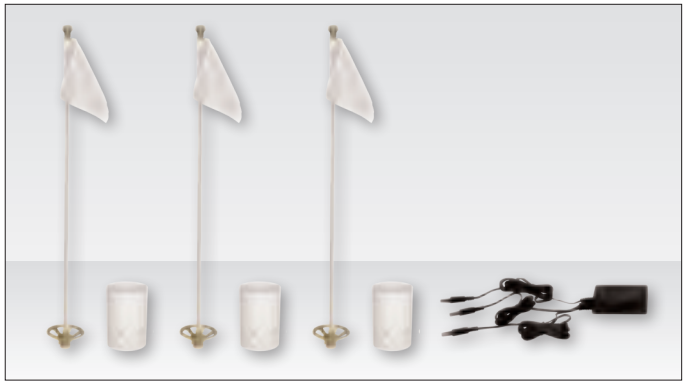
The quick-connect system for perimeter lighting is a snap. The perimeter lights plug in for use during evening activities and are removable during daytime hours. Simply flip open the top of the perimeter in-ground stake and snap the lighting fixture into place creating a low voltage connection. Permanently installed receptacles are flush mounted to grade, just off the putting green surface. The directional luminaire is crafted from solid brass and has an adjustable knuckle to place the light just where you want it.

LED Technology Provides High Illumination
Working in conjunction with a proprietary optical lens design, the LEDs provide a narrow beam of light to brightly illuminate the flag.



Quick-Connect Perimeter Light

Quick-Connect Perimeter Stake



TWGC-3P

TWGC-CUPANDCATCH

TWGP-STAKE

TWGP-STAR36-12-L5

TWGC

Specifying Information—Twilight Perimeter Lighting

Model Number	Description
TWGP-STAR36-12-L5	Perimeter Post Light w/Starburst Luminaire on 36" Post, w/12-Volt, 5-Watt LED, Vertical-Spread Lens
TWGP-STAKE	Stake, Stabilizing, w/Electrical Receptacle Assembly, w/2 Waterproof Wire Splices
TWGP-TRANS-360SS	360-Watt Transformer, Indoor/Outdoor, Wall-Mountable
TWGP-TRANS-360DB	360-Watt Transformer, Direct-Burial
TWGP-TRANS-1120SS	1120-Watt Transformer, Indoor/Outdoor, Wall-Mountable
TWGP-HUB	Hub Electrical Enclosure, w/4 InLine Fuse Holders, w/4 5-Amp Fuses,4 Spare 5-Amp Fuses, 4 Waterproof Wire Splices
TWGP-WIRE-12-2-500	Direct-Burial Cable, 12-Gauge, 2-Conductor, 500-Foot Spool
TWGP-ELECREC	Receptacle, Electrical, w/2-Wire Splice, Replacement
TWGP-5WLAMP	Lamp, LED, 5-Watt, Flood, 27K, Replacement
TWGP-LID	Receptacle, Electrical, Lid, Replacement
TWGP-LENS	Vertical-Spread Lens, Replacement
TWGP-HEXLOUVER	Hex Louver, Replacement
TWGP-GREASE	Grease, Lubricating/Sealing, for Replacement LED Installation

SPECIFICATIONS

Operational

Twilight™ Golf Cup (TWGC)

- White ABS cup aligns notches in solid brass ball catch with notches in cup. Fits most standard and putting green flags.
- CREE XB-D white LEDs, 3200K color temperature
- Bottom compartment houses the on/off switch, charging port and Lithium-Ion battery.
- Charger will charge up to three golf cups at one time – estimated charging time is 5 hours.
- Lithium-Ion battery will run the cup light for up to 8 hours

Perimeter Post Light (TWGP)

- Solid brass die cast construction of the luminaire – Tempered glass lens encased in a silicone gasket to create a weather resistant seal.
- Provided with a 5W LED MR16 lamp
- Solid brass quick-connect adaptor is mounted to the bottom of the 36" stem
- Adjustable head rotates vertically allowing for on-site adjustability, includes low-glare lamp shield

Perimeter In-Ground Stake (TWGP-STAKE)

- Sturdy, in-grade, 3" diameter stake provides electrical connection to the transformer and stability for the 36" tall perimeter post light
- Resin flip top for easy connection
- Flush mount to grade when not in use with fixture inserted
- Powered by a TUV certified low voltage transformer

Electrical

Twilight™ Golf Cup (TWGC)

- LEDs – 12VDC, (3) 1 Watt light emitting diodes
- Lithium-Ion Battery – 11.1 VDC 2600 mAh
- Charger – 120VAC/12VDC

Perimeter Light (TWGP)

- 5 Watt LED lamp, 12V AC

TWGP-TRANS-XXXXX - Transformer

- 120V AC 6' long cord
- 12V-15V output for the 360SS
- 12V-22V output for the 1120SS

Dimensions

- TWGC Cup light only: 4 5/16" Dia. x 6 5/16" H
- Flag height: 30 1/4" H
- TWGP Perimeter Post Light: 43" H installed
- TWGP Receptacle – exposed diameter 3 5/8"

Warranty

- Twilight™ Golf Cup, 2 years
- Perimeter Post Light, limited lifetime warranty
- Perimeter in-ground stake & Hub, 3 years
- Transformers, limited lifetime warranty
- LED lamp in Perimeter Post Light, 5 years
- Lithium-Ion Battery, 2 years

Specifying Information—Twilight Cup Lights

Model Number	Description
TWGC	Twilight Wireless Golf Cup Light, Single Unit
TWGC-3P	Kit, Twilight Golf Cup, 3-Pack
TWGC-BALLCATCH	Ball Catch, Brass
TWGC-CHARGER-S	Charger, Power Supply
TWGC-CUP	Twilight Wireless Golf Cup, Single Cup
TWGC-CUPANDCATCH	Twilight Wireless Golf Cup, Single Unit, w/Ball Catch, Brass
TWGC-FLAG	Twilight Wireless Golf Cup Flag, Pole and Nut
TWGC-LIBATT	Battery, Lithium Ion, Rechargeable

Wire Sizing

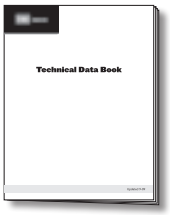
Current Draw (Amperage)

Standard Wattage Solenoid

Product	Solenoids	Assumes 24 VAC, 50/60 Hz Output			
		120 VAC, 60 Hz		240 VAC, 50 Hz	
		Inrush	Holding	Inrush	Holding
Network VP Satellite	0	—	0.20	—	0.19
	1	0.26	0.25	0.30	0.22
	2	0.35	0.30	0.34	0.25
	3	0.40	0.34	0.36	0.28
	4	0.46	0.39	0.39	0.30
	5	0.50	0.43	0.42	0.33
	6	0.64	0.48	0.44	0.36
	7	0.70	0.52	0.46	0.38
	8	0.73	0.56	0.50	0.41
	9	0.77	0.61	0.53	0.43
	10	0.80	0.65	0.57	0.46
	11	0.85	0.69	0.57	0.48
	12	0.91	0.73	0.57	0.51
	13	1.00	0.77	0.61	0.53
	14	1.03	0.81	0.62	0.55
	15	1.05	0.85	0.63	0.58
	16	1.14	0.88	0.66	0.60
Network LTC Satellite	0	0.15	0.15	0.08	0.08
	1	0.23	0.21	0.12	0.11
	2	0.31	0.27	0.17	0.14
	3	0.39	0.33	0.22	0.17
	4	0.47	0.39	0.26	0.20
	5	0.55	0.45	0.31	0.24
	6	0.63	0.51	0.36	0.27
	7	0.71	0.57	0.40	0.30
	8	0.79	0.63	0.45	0.33
	9	0.87	0.69	0.50	0.36
	10	0.95	0.75	0.55	0.40
	11	1.03	0.81	0.59	0.43
	12	1.11	0.87	0.64	0.46
E-Series osmac Satellite	0	0.05	0.05	0.03	0.03
	1	0.13	0.11	0.07	0.06
	2	0.21	0.17	0.12	0.09
	3	0.29	0.23	0.17	0.12
	4	0.37	0.29	0.21	0.15
	5	0.45	0.35	0.26	0.19
	6	0.53	0.41	0.31	0.22
	7	0.61	0.47	0.35	0.25
	8	0.69	0.53	0.40	0.28
	9	0.77	0.59	0.45	0.31
	10	0.85	0.65	0.50	0.35
	11	0.93	0.71	0.54	0.38
	12	1.01	0.77	0.59	0.41
	13	1.09	0.83	0.64	0.44
	14	1.17	0.89	0.68	0.47
	15	1.25	0.95	0.73	0.51
	16	1.33	1.01	0.81	0.54

Spike Guard™ Low Wattage Solenoid

Product	Solenoids	Assumes 24 VAC, 50/60 Hz Output			
		120 VAC, 60 Hz		240 VAC, 50 Hz	
		Inrush	Holding	Inrush	Holding
Network VP Satellite	0	—	0.20	0.21	0.20
	1	0.24	0.22	0.22	0.21
	2	0.26	0.24	0.23	0.22
	3	0.29	0.27	0.24	0.23
	4	0.31	0.29	0.25	0.24
	5	0.33	0.31	0.26	0.26
	6	0.35	0.33	0.28	0.27
	7	0.39	0.37	0.29	0.28
	8	0.41	0.39	0.30	0.30
	9	0.43	0.41	0.32	0.31
	10	0.46	0.44	0.34	0.33
	11	0.47	0.46	0.35	0.35
	12	0.49	0.48	0.36	0.36
	13	0.52	0.50	0.37	0.38
	14	0.54	0.52	0.38	0.39
	15	0.56	0.54	0.40	0.40
	16	0.58	0.56	0.43	0.42
	17	0.60	0.58	0.44	0.43
	18	0.61	0.60	0.46	0.45
	19	0.63	0.62	0.47	0.46
	20	0.66	0.64	0.49	0.48
	21	0.68	0.66	0.50	0.49
	22	0.70	0.68	0.51	0.50
	23	0.74	0.70	0.53	0.52
	24	0.76	0.72	0.54	0.53
	25	0.79	0.74	0.55	0.54
	26	0.80	0.75	0.57	0.56
	27	0.85	0.77	0.58	0.57
	28	0.90	0.79	0.59	0.58
	29	0.93	0.81	0.60	0.59
	30	0.96	0.82	0.61	0.60
	31	1.01	0.84	0.62	0.61
	32	1.04	0.86	0.64	0.62
Network LTC Satellite and Network LTC Plus Satellite	0	0.15	0.15	0.08	0.08
	1	0.17	0.17	0.10	0.10
	2	0.20	0.19	0.11	0.11
	3	0.22	0.21	0.13	0.13
	4	0.25	0.23	0.15	0.14
	5	0.27	0.25	0.17	0.16
	6	0.29	0.27	0.18	0.17
	7	0.32	0.29	0.20	0.19
	8	0.34	0.31	0.22	0.20
	9	0.37	0.33	0.23	0.22
	10	0.39	0.35	0.25	0.23
	11	0.41	0.37	0.27	0.25
	12	0.44	0.39	0.28	0.26
E-osmac Satellite	0	0.05	0.05	0.03	0.03
	1	0.07	0.07	0.05	0.05
	2	0.10	0.09	0.06	0.06
	3	0.12	0.11	0.08	0.08
	4	0.15	0.13	0.10	0.09
	5	0.17	0.15	0.12	0.11
	6	0.19	0.17	0.13	0.12
	7	0.22	0.19	0.15	0.14
	8	0.24	0.21	0.17	0.15
	9	0.27	0.23	0.18	0.17
	10	0.29	0.25	0.20	0.18
	11	0.31	0.27	0.22	0.20
	12	0.34	0.29	0.23	0.21
	13	0.36	0.31	0.25	0.23
	14	0.39	0.33	0.27	0.24
	15	0.41	0.35	0.29	0.26
	16	0.44	0.37	0.30	0.27



Technical Data

Technical Data Book

Form No. 490-1737

CONVERSION INFORMATION

- All gallons per minute are shown in U.S.
- To convert to imperial gallons per minute, multiply by 0.833
- To convert to liters per minute, multiply by 3.78
- To convert pounds per square inch (Psi) to atmospheres, divide by 14.7
- To convert pounds per square inch (Psi) to kilograms per square centimeter (kg/cm2), divide by 14.22
- To convert feet to meters, divide by 3.28

WINTERIZING SPECIFICATIONS

In freezing climates, valves should be properly winterized to prevent freeze-related damage.

SPRINKLER SPACING

The Toro Company does not recommend designing for zero (0) mph wind conditions.

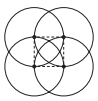
- **Square Spacing**
  - No wind - 55% of diameter
  - 4 mph wind - 50% of diameter
  - 6,4 kph wind - 50% of diameter
  - 8 mph wind - 45% of diameter
  - 12,8 kph - 45% of diameter
- **Triangular Spacing**
  - No wind - 60% of diameter
  - 4 mph wind - 55% of diameter
  - 6,4 kph wind - 55% of diameter
  - 8 mph wind - 50% of diameter
  - 12,8 kph - 50% of diameter
- **Single Row Spacing**
  - No wind - 50% of diameter
  - 4 mph wind - 50% of diameter
  - 6,4 kph wind - 50% of diameter
  - 8 mph wind - 45% of diameter
  - 12,8 kph - 45% of diameter

Design in consideration of the worst wind conditions.

PRECIPITATION RATE FORMULAS

- **Square-spaced sprinklers in pattern:**

$$\frac{\text{Gpm of full-circle} \times 96.3}{(\text{Spacing})2}$$



- **Triangular-spaced sprinklers in pattern:**

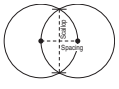
$$\frac{\text{Gpm of full-circle} \times 96.3}{(\text{Spacing})2\ (.866)}$$

- **Area and flow:**

$$\frac{\text{Total Gpm of zone} \times 96.3}{\text{Total irrigated square feet of zone}}$$

- **Single row:**

$$\frac{\text{Gpm of full-circle} \times 96.3}{(\text{Spacing})\ (\text{Scallop})}$$



THE TORO LIMITED WARRANTY GOLF IRRIGATION

The Toro Company and its affiliate, Toro Warranty Company, pursuant to an agreement between them, jointly warrants to the owner, each new piece of irrigation equipment (featured in the current catalog at date of installation) against defects in material and workmanship for a period described below, provided they are used for irrigation purposes under manufacturer's recommended specifications.

During the warranty period, we will repair or replace, at our option, any part found to be defective. Your remedy is limited solely to the replacement or repair of defective parts.

This warranty does not apply (i) to Acts of God (e.g., lightning, flooding, etc.); or (ii) to products not manufactured by Toro when used in conjunction with Toro products; or (iii) where equipment is used, or installation is performed in any manner contrary to Toro's specifications and instructions, nor where equipment is altered or modified.

Return the defective part to your irrigation contractor or installer, or your local Golf Irrigation Distributor, or contact:

The Toro Company
5825 Jasmine Street, Riverside, CA 92504
(800) 664-4740

For the location of your nearest Toro distributor or outside the U.S., call: **(951) 688-9221.**

Neither Toro nor Toro Warranty Company is liable for indirect, incidental or consequential damages in connection with the use of equipment, including but not limited to: vegetation loss, the cost of substitute equipment or services required during periods of malfunction or resulting non-use, property damage or personal injury resulting from installer's actions, whether negligent or otherwise.

Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you.

All implied warranties, including those of merchantability and fitness for use, are limited to the duration of this express warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Golf Sprinklers

All Toro golf sprinklers and conversion assemblies are covered by this warranty for 3 years from date the date of installation. Proof of installation date required for any warranty claim.

All Toro golf sprinklers purchased and installed with a Toro swing joint will be covered by a five-year Warranty*. Proof of simultaneous installation required for any warranty claim.

** Excludes 590GF Series and sprinkler conversion assemblies.*

Swing Joints

Toro swing joints are covered by this warranty for 5 years from the date of installation. Proof of installation date required for any warranty claim.

Valves

220G Series, P-220G Series and P-220GS Series valves are covered by this warranty for 5 years from date of installation. 470 Series quick coupler valves are covered by this warranty for 2 years from date of installation.

DL2000™ Subsurface Drip Irrigation

Toro DL2000™ Subsurface Drip Irrigation products are covered by this warranty for 2 years from date of installation.

Control Systems, Turf Guard®, Valve Boxes and Dry Boxes

All Toro golf control systems (central controls, field satellite controllers, GDC and Turf Guard), Valve Boxes and Dry Boxes, unless covered by a Toro NSN Support Plan, are covered by this warranty for 1 year from date of installation.

Twilight™ Golf Lighting

Perimeter Post Light - limited lifetime warranty; Perimeter In-Ground Stake and Hub - 3 years; Transformers – limited life-time warranty; *FLEX*™ Series LED Lamps - 5-year warranty; Lithium-Ion Battery – 2 years. All Toro Twilight™ Golf Lighting products are covered by this warranty from the date of installation. Proof of installation date is required for any warranty claim.

We reserve the right to improve our products and make changes in the specifications and designs without notice and without incurring obligation. Products depicted in this brochure are for demonstration purposes only. Actual products offered for sale may vary in design and features.

DISTRIBUTION OUR TRUSTED PARTNERS

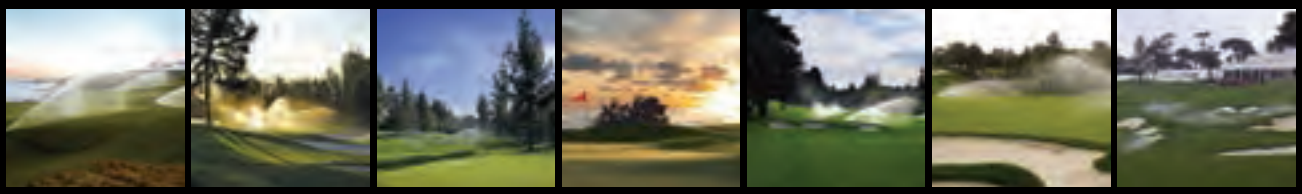
International distributors can be found at:
www.toro.com/locator

Our American Partners

1. Century Equipment, Inc.
   (419) 865-7400
2. E. H. Griffith, Inc.
   (412) 271-3365
3. Grassland Equipment & Irrigation Corp.
   (518) 785-5841
4. Kona Irrigation Supply, Ltd.
   (808) 329-1167
5. Hector Turf
   (954) 429-3200
6. Jerry Pate Turf & Irrigation, Inc.
   (850) 479-4653
7. Kenney Machinery Corp.
   (317) 872-4793
8. L. L. Johnson Distributing Company
   (303) 320-1270
9. Midland Implement Company, Inc.
   (406) 248-7771
10. Midwest Turf & Irrigation, Inc.
    (402) 895-8900
11. MTI Distributing, Inc.
    (763) 592-5600
12. Professional Turf Products
    (817) 785-1900
13. Reinders, Inc.
    (262) 786-3300
14. Simpson Norton Corporation
    (623) 932-5116
15. Smith Turf & Irrigation L.L.C.
    (704) 393-8873
16. Spartan Distributors, Inc.
    (616) 887-7301
17. Storr Tractor Company
    (908) 722-9830
18. Turf Equipment & Irrigation
    (801) 566-3256
19. Turf Equipment & Supply Company, Inc.
    (410) 799-5575
20. Turf Products L.L.C.
    (860) 763-3581
21. Turf Star, Inc.
    (800) 585-8001
22. Wesco Turf Inc.
    (941) 377-6777
23. Western Equipment Distributors, Inc.
    (253) 872-8858

Our Canadian Partners

24. Ful-Flo Industry's, Ltd.
    (204) 633-4414
25. Oakcreek Golf and Turf Inc.
    (403) 279-2907
26. Turf Care Products Canada
    (905) 836-0988



Toro is always there to help you care for your landscapes the way you want, when you want, better than anyone else.

www.toro.com

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