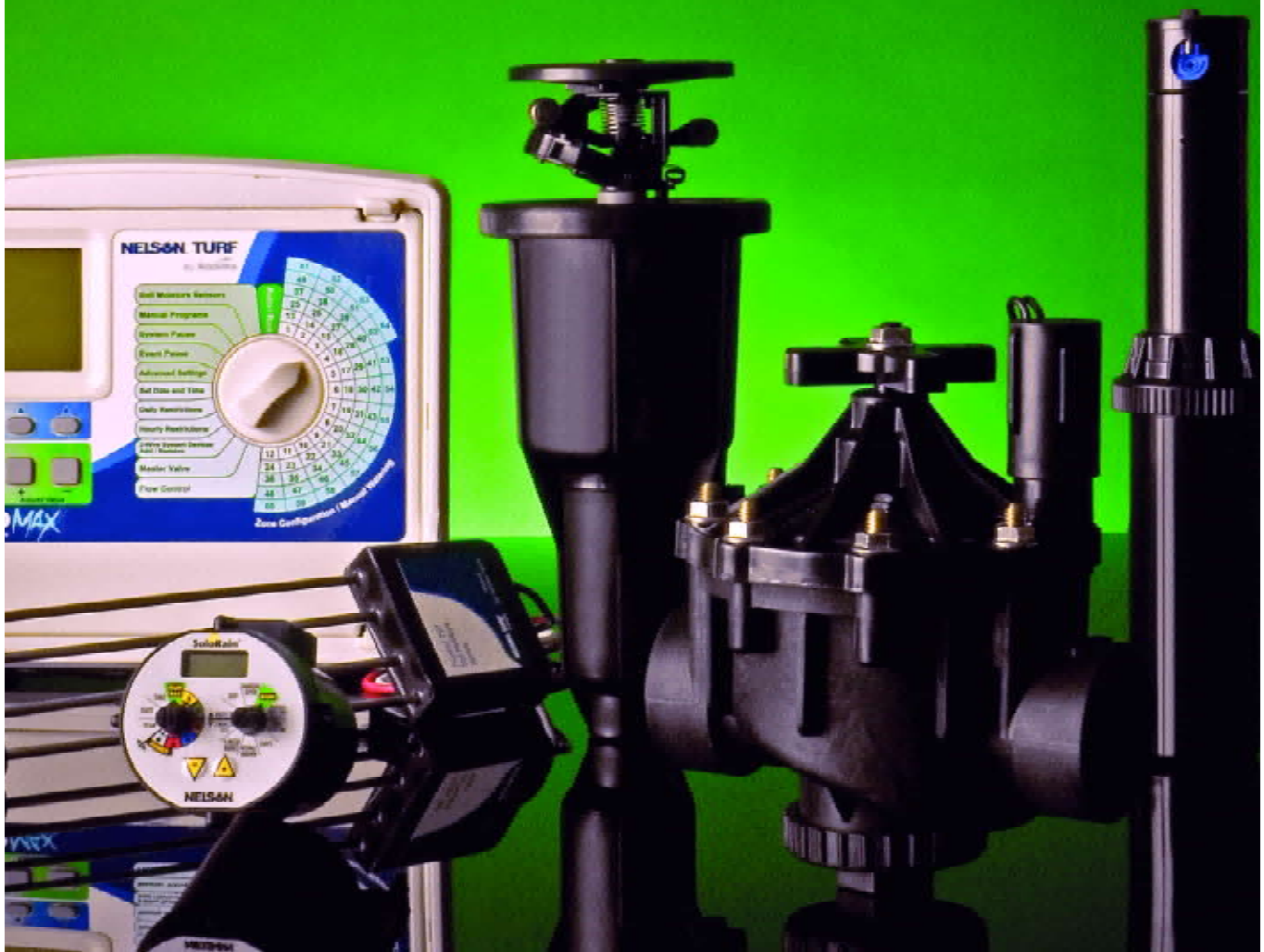


# NELSON TURF

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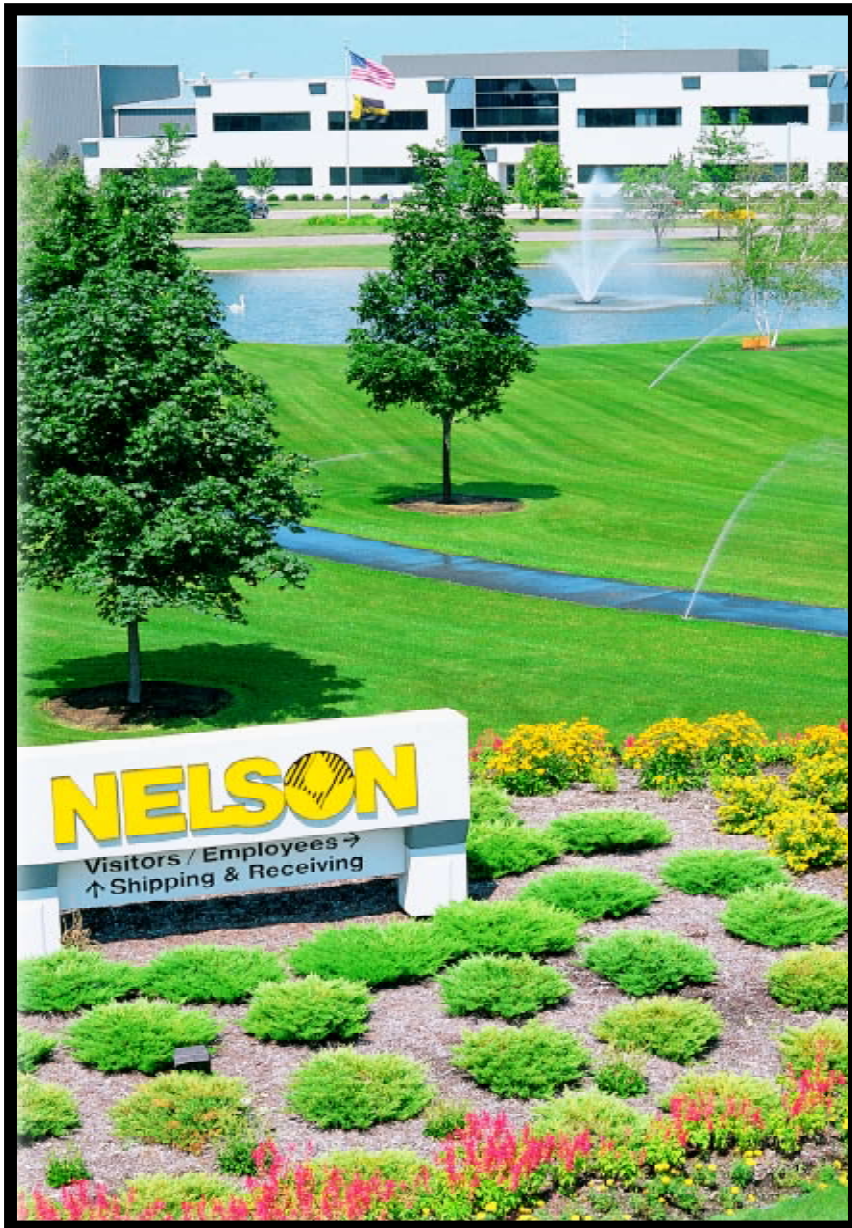


January 1, 2007

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# THE SOLUTION TO IRRIGATION SUCCESS



Since 1911, Nelson has been listening to you and developing products to give you the solution to irrigation success. We take tomorrow's technologies and apply them to today's applications.

Our SoloRain™ line of battery-operated controllers has expanded with the introduction of the 8020 Series SoloRain™. Other SoloRain™ products include the 8014 Duralife™ valve actuator, which has years of proven reliability and performance.

Unique and innovative products have been added to our controller line as well, to include the EZ Pro™ Jr., the EZ Pro™ Jr. Indoor, and the EZ Pro™ controller and EZ Command™ remote. The EZ Pro™ series and EZ Command™ give you all kinds of irrigation freedom with full remote capabilities. Everything you can do at the controller can be done with the remote.

In regards to our valve line, Nelson offers .75", 1", 1.5" and 2" EZ Connect™ valves with built-in unions making these the most versatile valves available. One valve body and no fixed inlet or outlet gives this valve ultimate flexibility for any job.

Nelson already boasts a complete line of gear driven rotors, spray heads, valves, controllers, smart controllers, impact heads, and the ever-popular Rain Train® and Watertrains. Yet, you have our commitment to continue to engineer and offer the highest-quality irrigation products available. All of our products are backed by the industry's best hassle-free trade warranty. You also have our commitment for service beyond your expectations. We have a dedicated sales force in the field for first-class service worldwide. You can call us toll-free at 888-NELSON-8 to answer many of your technical questions, or visit us on the web at [LRNelson.com](http://LRNelson.com) for further information and support. We're not the largest manufacturer of turf irrigation products out there. But by listening to you and having your support, we will be the best. That's our commitment to you!

January 1, 2007

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# NEW PRODUCTS



## THE CREATIVITY CONTINUES...



IN 2006, HENRI WAS ACQUIRED BY L.R. NELSON, A COMPANY THAT HAS MANUFACTURED WATERING PRODUCTS FOR NEARLY A CENTURY. L.R. NELSON IS COMMITTED TO THE CONTINUED EXCELLENCE OF HENRI STUDIO, PROVIDING BUSINESS AND SUPPORT RESOURCES THAT WILL ENABLE RENEWED DEVELOPMENT AND GENERATE FURTHER GROWTH. THE COMPLEMENTARY PROFICIENCIES OF THESE TWO COMPANIES HAVE ALREADY INSPIRED NEW PRODUCT CATEGORIES FOR HENRI, INCLUDING: OUTDOOR LIVING, WATER PRODUCTS, AND A FUTURE IN WATER GARDENING. HENRI'S MANUFACTURING FACILITY IS A 125,000-SQUARE-FOOT, STATE-OF-THE-ART FACILITY IN WAUCONDA, ILLINOIS. HERE THE COMPANY DESIGNS, PRODUCES, AND SHIPS STATUARY AND GARDEN DÉCOR PRODUCTS. HENRI'S PARTNERS ARE AN EXTENSIVE NETWORK OF NURSERIES, GARDEN CENTERS, CONTRACTORS, ARCHITECTS, LANDSCAPE DESIGNERS AND DISTRIBUTORS. RELATIONSHIPS WITH THESE PARTNERS HAVE A HISTORY OF MORE THAN 30 YEARS. HENRI'S INTENT IS TO CONTINUE THIS COMMITMENT TO THE INDEPENDENT MARKET. AS HENRI STUDIO ENTERS A NEW PHASE, YOU CAN LOOK FORWARD TO CONTINUED CREATIVITY, CONTINUED QUALITY AND ENDURING BEAUTY—A TRADITION OF EXCELLENCE HANDED DOWN FROM ITS FOUNDER SO MANY YEARS AGO.



HENRI STUDIO, LLC | ONE SPRINKLER LANE | PEORIA, IL 61615 | 800.323.4784 | WWW.HENRISTUDIO.COM  
*Henri Studio, LLC is a subsidiary of L.R. Nelson Corporation*

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*Henri Catalog CD available upon request.*

January 1, 2007

<b>SoloRain™ wireless control equipment</b>	<b>5-12</b>
<b>smart controllers</b>	<b>13-16</b>
<b>controllers</b>	<b>17-22</b>
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<b>sunterra</b>	<b>67</b>



**LIMITED WARRANTY**

L.R. Nelson Corporation ("Nelson") warrants all Nelson turf products, to be free of defects in material and workmanship for a period of five (5) years from the original date of purchase (except electronic products). Electronic products are warranted for two (2) years. In the event of such defects, Nelson will repair or replace, at its option, the product or the defective part.

This warranty does not extend to damage to a Nelson product or part resulting from accident, misuse, alteration, neglect, abuse, improper installation or normal wear and tear, or to exterior appearance and color. This warranty extends only to the original installer of the Nelson product.

If a defect arises in a Nelson product or part within the warranty period, you should contact your Nelson retailer, distributor, or L.R. Nelson Corporation at one of the following locations:

One Sprinkler Lane Peoria, IL 61615 (888) NELSON-8 Fax (309) 692-9152	LR Nelson Holding Co. Int. B.U. Calle de Pontevedra # 43 08190 Sant Cugat Del Valles (Mirasol) Barcelona, Spain 34-93-589-61-62 Fax 34-93-589-61-28	4780 Eucalyptus Ave. Chino, CA 91710 (800) 800-0993 Fax (909) 393-2761
--	--	---

Nelson may, at its option, require that product or part be returned to a Nelson service point or our retailer or distributor. Nelson will determine whether the claimed defect is covered by the warranty. If covered, the product will be repaired or replaced. Please allow 4 to 6 weeks for completion of repairs or replacement and return of the product or part. If a product or part is replaced, the replacement is warranted only for the remainder of the original product or part warranty period.

TO THE EXTENT ALLOWED BY LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO THE NELSON PRODUCTS IS LIMITED IN DURATION OF THESE WRITTEN WARRANTIES. NEITHER L.R. NELSON CORPORATION NOR ITS DISTRIBUTORS OR DEALERS SHALL BE LIABLE FOR LOSS OF TIME, INCONVENIENCE, ECONOMIC LOSS, OR INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE SALE OR DISTRIBUTION OF NELSON PRODUCTS WHETHER FOR BREACH OF WARRANTY HEREUNDER OR FOR NEGLIGENCE OR IN TORT. Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

If you have any question concerning the warranty or its application, please write to:  
L.R. Nelson Corporation, One Sprinkler Lane, Peoria, Illinois 61615, U.S.A., Attention: Customer Service.

January 1, 2007

Nelson's gone wireless – with the SoloRain™ family of battery-powered programmable irrigation control equipment. In addition to offering a versatile, durable, technologically innovative series of products, Nelsons' SoloRain™ family allows you to deliver precise, reliable control without conventional electrical wiring. It is also suited to the retrofit of manual systems or the repair of existing wired systems. Ideal applications include hard-to-reach areas such as highway medians, parks, athletic fields and other spots where it is not practical or economical to install a hard-wired controller.

**SoloRain™ wireless control equipment**



*January 1, 2007*

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**programmable actuators**



**FEATURES**

**8010 Series:**

- Stand-alone unit includes three dials for easy programming
- Waterproof design in both the programmable actuator and the battery compartment - proper installation allows unit to be completely submersible in up to 6 feet of water
- Solenoid and battery compartment are compact and made of durable nylon with protective cover included
- Operates on a single 9 volt Energizer® alkaline battery for one year (not included)
- Latching solenoid design uses minimal battery consumption
- Resistant to the hazards of lightning and power surges commonly seen in AC systems
- Compatible with most valves via adapters
- Programmable clock for real time operation
- Automatic watering up to two times per day
- Watering times from one minute to 5½ hours
- Manual ON and OFF
- 2 year warranty on materials and workmanship

**8014/8014SR/8013/8015/8016 Series:**

- Long life factory installed lithium battery. Actual battery life will depend on the number of cycles run per year, valve size, operating pressure, and temperature. The battery is replaceable and is available as a service part.
- Nelson exclusive Select&Adjust™ programming makes programming fast and easy
- LCD displays clock and programming
- Timed manual on and off
- Length of watering time: 1 minute to 12 hours
- Six watering programs available per day
- Mist Cycle available on Program 6
- Days of the week, Odd/Even, and Interval scheduling
- Rain Delay is programmable from 1 to 99 days
- Fits Nelson valve models 7900 1" series, 9000 1" series, 9501 and the 9502 series valves
- Leap year compatible-automatically includes Feb 29th every four years
- Waterproof design is submersible in up to 6 feet of water
- Two wires on the "SR" version allows any normally open/normally closed sensor to be hooked up to it (switch has to be closed for the 8014 to operate). Sensors can be up to 25 feet away.
- 2 year warranty on materials and workmanship

**8010**  
Programmable Actuator

**8014**  
DuraLife Valve Actuator

**8014SR**  
DuraLife Valve Actuator with Sensor Ready

**8013 (8013E)**  
DuraLife Valve Actuator with 1" (9001/9003) valve

**8015 (8015E)**  
DuraLife Valve Actuator with 1" (7901/7916) valve

**8016E**  
DuraLife Valve Actuator with 1" union (9501) valve

**SPECIFICATIONS**

**Overall Dimensions:**

- 4½"H x 2¾"W x 1¾"D (8010)
- 5½"H x 3½"Dia. (8014, 8014SR)
- 7⅝"H x 5"W x 3"D (8013, 8013E)
- 7½"H x 4"W x 3½"D (8015, 8015E)
- 8⅝"H x 5½"W x 3½"D (8016E)

**Electrical:**

- One 9V Energizer® alkaline battery (not included) (8010)
- Factory installed 3.6 V size AA lithium battery (8014, 8014SR, 8013, 8015, and 8016E)

CE, IP68DW

**VALVE COMPATIBILITY CHARTS**

8010 ADAPTERS	
Nelson adapter (sold with Model 8010)	
<i>compatible with Nelson's NE adapter:</i>	
7901 / 7916(BSP)	7911 / 7917(BSP)
7931	7941
7951 / 7971(BSP)	7952 / 7972(BSP)
7953 / 7973(BSP)	
9001	9011
9002	9012
9003	9013
9004	9014
9501	9501FC
9502	
7981 / 7991(BSP)**	7982 / 7992(BSP)**
Hardie adapter: Model 77422*	
Hardie 100, 700, 2400	Hardie 623 DPR**
Irritrol 216	Superior 950, 800
Hit 510	Bernad 1"
Buckner 20021, 20321	Dorot 1"
Griswold 1"	Galcon 1"
Richdel 205TF, 711 APR, 713 APR	
Toro adapter: Model 77423*	
Toro Flo-pro	
Rainbird adapter: Model 77424*	
Rainbird: PEB, DV, DVF, ASVF, EFB-CP, GB, PGA	
* Sold separately ** No adapter required for these valves	

8014 and 8020 DC ADAPTERS*	
Model 77467	
ALL IRRITROL VALVES	
NELSON**: 7937/7987 (BSP)	7938/7988 (BSP)
Model 77468	
Rainbird: PEB, DV, DVF, ASVF, EFB-CP, GB, PGA, PESB, BPE, BPES	
Model 77481	
Weathermatic: ALL WEATHERMATIC VALVES	
Model 77516	
Hunter: ALL HUNTER VALVES	
Model 77526	
Toro: 252 SERIES	
* Sold separately ** No adapter required for these valves	

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## programmable actuators



**8021**  
1 zone Battery Powered Controller Kit

**8022**  
2 zone Battery Powered Controller Kit

**8024**  
4 zone Battery Powered Controller Kit

**8026**  
6 zone Battery Powered Controller Kit

**Kit includes: Controller, Solenoids, 3M Gel Connectors, 2 Mounting Options & Common Jumper Wires**

**8021C**  
1 zone controller only

**8022C**  
2 zone controller only

**8024C**  
4 zone controller only

**8026C**  
6 zone controller only

**8020P**  
8020 Series Mounting Plate

**8020S**  
8020 Series Mounting Stake

**8020DC**  
8020 Series Solenoid

**8020GC**  
8020 Series 3M Gel Connectors (16 qty)

### SPECIFICATIONS

#### Overall Dimensions:

4 1/4" H x 3 1/4" D

#### Electrical:

Two Energizer® alkaline AA batteries (not included)

CE, IP68DW

#### 8014 and 8020 DC ADAPTERS\*

Model 77467

ALL IRRITROL VALVES

NELSON\*\*:  
7937/7987 (BSP) 7938/7988 (BSP)

Model 77468

Rainbird:

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

Model 77481

Weathermatic:

ALL WEATHERMATIC VALVES

Model 77516

Hunter:

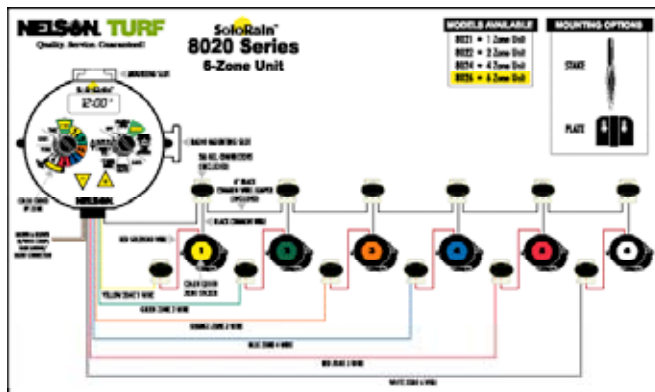
ALL HUNTER VALVES

Model 77526

Toro:

252 SERIES

\* Sold separately \*\* No adapter required for these valves



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programmable actuators 7

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**programmable actuators**



**8020DC**

Latching Solenoid with NE adapter

**8020P**

8020 Series Mounting Plate

**8020S**

8020 Series Mounting Stake

**FEATURES**

**8020 Series:**

- Available in 1, 2, 4, and 6 zones
- Three start times per program (9 total start times)
- Three independent programs
- Length of programmable watering time (1min to 3hr 59min per zone)
- Four scheduling options to suit the need of plant material or to comply with watering restrictions (days of the week, 1-30 day interval, true odd/even)
- Leap year compatible (automatically includes February 29th)
- 0-200% Water budget programming
- Three test cycles (manual open, cycle, and 3min test)
- Color coded label, wires and solenoid stickers make wiring /zone identification quick and easy!
- Can have up to 250ft of 18awg direct burial wire between the solenoid and the 8020 Series Controller (Must use 3M Gel connectors for splice or you warranty is void)
- Long life battery\*
- Operates RainBird® & Hunter® DC latching Solenoids (makes for an easy controller replacement)
- 2 year warranty on material and workmanship

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

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## remote programmable actuators

### 8030

Remote Programmable Actuator

### 8032 (8033)

Remote Programmable Actuator with  
1" (7901/7916) valve

### 8071

Programmer Plus console with carrying case

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

### SPECIFICATIONS

#### Overall Dimensions:

4½"H x 2¾"W x 1¾"D (8030)

7"H x 4¾"W x 2¾"D (8032)

9¾"H x 5¼"W x 1¾"D (8071)

#### Electrical:

One 9V Energizer® alkaline battery  
(not included) (8030, 8032)

, IP68DW



### VALVE COMPATIBILITY CHARTS

#### 8030 series ADAPTERS

*Nelson adapter (sold with Model 8030)*

*compatible with Nelson's NE adapter:*

7901 / 7916(BSP)	7911 / 7917(BSP)
7931	7941
7951 / 7971(BSP)	7952 / 7972(BSP)
7953 / 7973(BSP)	
9001	9011
9002	9012
9003	9013
9501	9501FC
9502	
7981 / 7991(BSP)**	7982 / 7992(BSP)**

*Hardie adapter: Model 77422\**

Hardie 100, 700, 2400	Hardie 623 DPR**
Irritrol 216	Superior 950, 800
Hit 510	Bermad 1"
Buckner 20021, 20321	Dorot 1"
Griswold 1"	Galcon 1"
Richdel 205TF, 711APR, 713 APR	

*Toro adapter: Model 77423\**

Toro Flo-pro

*Rainbird adapter: Model 77424\**

Rainbird: PEB, DV, DVF, ASVF, EFB-CP, GB, PGA
--

\* Sold separately \*\* No adapter required for these valves

remote programmable actuators

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## remote programmable actuators

### FEATURES

#### 8030 Series:

- Solenoid and battery compartment are compact and made of durable nylon construction
- Programming interface through cord connection to the model 8071 or 8081 Programmer control consoles
- Waterproof design in both the programmable actuator and the battery compartment - proper installation allows unit to be completely submersible in up to 6 feet of water
- Latching solenoid design uses minimal battery consumption



#### 8096

##### PG Long Battery Life Kit

- Overall Dimensions: 2 $\frac{3}{8}$ "H x 1 $\frac{1}{4}$ "W x  $\frac{7}{8}$ "D
- Electrical: 2 Tadiran lithium batteries (same as used in 8014 battery actuator)
- The kit is compatible with any PG unit
- No AC wiring protects against damage from lightning and power surges
- ONLY multi-station battery actuated controller on the market offering up to a 5 year battery life

NOTE: Hands and inside of PG case must be moisture free! Moisture will prevent unit from working.

#### 8071:

- Independent programming of an unlimited number of 8030 series actuators
- Up to 16 irrigation start times per actuator
- 14-day programming calendar
- Built-in memory allows storage of up to 36 different irrigation programs
- Downloadable transfer of programs individually or to a group of actuators
- Memory is retained for 2 minutes during battery change
- Four line LCD display for easy menu guided programming
- User can choose between five languages for operation
- Easy to program with large LCD display and simplified four rubber button keypad with audio "beep" response
- Impact-resistant plastic housing and protective carrying jacket included
- Operates on one 9 volt alkaline battery
- Programmable 12 or 24-hour clock with synchronizing function
- Watering times from one minute to 24 hours in one minute increments
- Manual START and STOP function
- Program review
- Rain ON/OFF capability
- 2 year warranty on materials and workmanship

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## radio adapters

### 8034 (8034E)

Remote Programmable Actuator  
with Radio adapter

### 8040 (8040E)

Remote Programmable Actuator Radio  
adapter (for 8030)

### 8081 (8081E)

Radio Programmer Plus console  
with carrying case

**Note: "E" versions feature 433Mhz Radio  
Frequency for international use**

#### Overall Dimensions:

17"H x 2¾"W x 1¾"D (8034)

9½"H x 2¾"W x 1¾"D (8040)

9¾"H x 5¼"W x 1¾"D (8081)

#### Radio:

Spread Spectrum Transceiver (8081, 8081E)

#### Electrical:

One 9V Energizer® alkaline battery

IP68DW (8034E, 8040E)

FCC Part 15 compliant

#### VALVE COMPATIBILITY CHARTS

8034 ADAPTERS	
Nelson adapter (sold with Model 8030)	
compatible with Nelson's NE adapter:	
7901 / 7916(BSP)	7911 / 7917(BSP)
7931	7941
7951 / 7971(BSP)	7952 / 7972(BSP)
7953 / 7973(BSP)	
9001	9011
9002	9012
9003	9013
9501	9501FC
9502	
7981 / 7991(BSP)**	7982 / 7992(BSP)**
Hardie adapter: Model 77422*	
Hardie 100, 700, 2400	Hardie 623 DPR**
Irritrol 216	Superior 950, 800
Hit 510	Bermad 1"
Buckner 20021, 20321	Dorot 1"
Griswold 1"	Galcon 1"
Richdel 205TF, 711APR, 713 APR	
Toro adapter: Model 77423*	
Toro Flo-pro	
Rainbird adapter: Model 77424*	
Rainbird: PEB, DV, DVF, ASVF, EFB-CP, GB, PGA	

\* Sold separately \*\* No adapter required for these valves



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## radio adapters

### FEATURES

#### 8034 Series:

- Solenoid and battery compartment are compact and made of durable nylon construction
- Programming interface through cord connection to the model 8071 and 8081 Programmer control consoles or radio transmission to 8081 Radio Programmer Plus
- Range of signal is line-of-sight up to 180 feet or 60 feet if buried in a valve box
- Secure bi-directional signal
- Waterproof design in both the programmable actuator and the battery compartment - proper installation allows unit to be completely submersible in up to 6 feet of water
- Latching solenoid design uses minimal battery consumption
- Compatible with most valves via adapters (see valve compatibility chart on page 8)
- Program stored during battery change up to 2 minutes
- Quick and easy to install
- Programs up to 16 cycles per day
- Watering from one minute to 24 hours
- 14-day programming calendar
- Manual program up to 240 minutes
- Manual ON and OFF
- Interruption of watering (Rain mode)
- FCC Part 15 compliant
- 2 year warranty on materials and workmanship

#### 8040 Series:

- Range of signal is line-of-sight up to 180 feet or 60 feet with 8040 installed in an in-ground valve box, depending on conditions
- Secure bi-directional signal
- Can be retrofitted to any 8030 Remote Programmable actuator
- Programming interface through radio transmission to 8081 Radio Programmer Plus
- FCC Part 15 compliant

#### 8081 Series:

- Radio eliminates direct cord connection to actuator
- Programs unlimited number of 8030 series actuators and 8040 radio adapters
- Range of signal is up to 180 feet line-of-sight or 60 feet with 8034/8040 installed in an in-ground valve box, depending on conditions
- Secure bi-directional signal for confirmation of program acceptance
- Up to 16 irrigation start times per actuator
- Built-in memory allows storage of up to 36 different irrigation programs
- Downloadable transfer of program individually or to a group of actuators
- Memory is retained for 2 minutes during battery charge
- 14-day programming calendar
- User can choose between five languages for operation

- FCC Part 15 compliant
- Easy to program with large LCD display and simplified four rubber button keypad with audio "beep" response
- Impact-resistant plastic housing and protective carrying jacket included
- Operates on one 9 volt alkaline battery
- Programmable 12 or 24-hour clock with synchronizing function.
- Watering times from one minute to 24 hours in one minute increments
- Manual START and STOP function
- Program review
- Interruption of watering (Rain mode)
- 2 year warranty on materials and workmanship

With new soil moisture sensing technologies, Nelson Turf has been able to incorporate a highly sophisticated Smart Controller series. The EZ Pro™ Xtra, will allow you to convert any existing standard irrigation timer into a Suspended Cycle controller by incorporating cutting edge moisture sensing technology to prevent over watering. Nelson has also added the EZ Pro Max™, which is a 64 zone 2-wire Water on Demand, Central Control System with sophisticated software and communications capabilities that are suitable for institutional use.

smart controllers



January 1, 2007

## EZ Pro™ Xtra series



### 8701\*

EZ Pro™ Xtra Control Box

\* A country code is required after model number:

- 'ES' - South Africa, Australia, Spain, UK
- 'IT' - Italy
- 'PT' - Portugal
- 'FR' - France

### SPECIFICATIONS

#### Dimensions:

##### Controller:

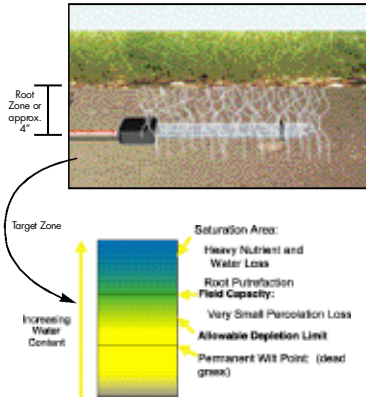
2 1/2" H x 3 3/8" W x 1 1/8" D

##### Sensor:

14 1/4" H x 3 1/4" W x 1" D  
-with 25 ft. wire



### How it Works



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### FEATURES

#### 8701 Control box

- Easily adapts to any time-based controller!
- Converts a time-based controller into a smart controller – automatic adjustment for changing weather conditions
- Manual moisture control over-ride which allows you to manually run the system or use the time based function of the controller
- Display shows real-time moisture content in the soil
- By pushing the "+" button you can read the conductivity of the soil
- Easily set the moisture threshold, by holding the "Set" button and pushing the "+" & "-" to adjust desired moisture threshold – when you want the system to water
- For indoor use only – if installed outside unit needs to be installed in a weather proof box

#### 8701 Sensor

- Easily adapts to any traditionally wired system!
- The sensor needs to be installed in a representative area of the entire project
- 3-easy wire connections, shallow trench & a small patch of turf - your work is done!
- Sensor is completely water proof
- Stainless steel rods are corrosion resistant therefore allowing the unit to be installed in any soil types
- Install at the root zone of the plant material – approximately 4"
- Measures the absolute water content of the soil by taking 3 independent readings – soil moisture, soil temperature & soil conductivity

**With a properly designed system and proper initial adjustment of the moisture threshold you can save on average 40%\* of your outside water usage!**

\*Documented savings range is 20% to 85%. Your actual savings may vary.

**8710\***

EZ Pro™ Max Control Box

- \* A country code is required after model number:
- 'ES' - South Africa, Australia, Spain, UK
- 'IT' - Italy
- 'PT' - Portugal
- 'FR' - France



**SPECIFICATIONS**

**Cabinet:**

Weather Resistant Plastic

**# of Zones:**

1 - 64 zones

**Dimensions:**

10 3/4"H x 13 3/4"W x 5 1/2"D

**8710 Electrical:**

Input 120V AC

Output 24V AC, 60Hz, 2.0 Amp

**8710 ES, IT, PT, FR Electrical:**

Input 230V AC

Output 24V AC, 50Hz, 2.0 Amp

**Batteries:**

Non-volatile Memory



**FEATURES**

**8710 Control box**

- Supports up to 64 zones and 16 sensors
- The 8710 EZ Pro™ Max utilizes a sophisticated 2-wire system for power and communication
- Each zone can be run in 1 to 3 modes
  - Sensor Controlled:** controlled by a sensor buried within the zone perimeter
  - Dependent Zone:** tracks a sensor controlled zone
  - Timed Zone:** traditional time based zone
- All controller events are logged into memory such as the sensor readings of soil temperature, salinity, and moisture level
- Data can all be viewed through Nelson's custom Windows based software (which is included free with every 8710)
- Has been designed to protect against lightning and power surges
- **Water on demand system** by setting a lower and upper threshold



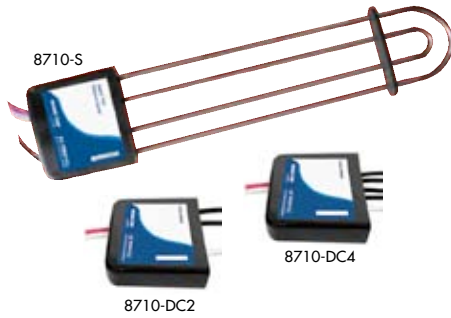
Supported DI Flow Meters for  
**EZ PROMAX**  
8710 Series

ID	K value	O value	Flow Range	DI Part Number	Construction	Table Code
1.0"	.397368	.261768	2-40	220BR10	Brass	0
1.5"	1.699	.316	5-100	228PV15	PVC	1
2.0"	2.843	.1435	10-200	228PV20	PVC	2
3.0"	8.309	.227	20-300	228PV30	PVC	3
4.0"	13.74	.237	40-500	228PV40	PVC	4
6.0"	21.574	.257	50-1500	220BR	Brass	5
8.0"	40.086	.281	80-2500	220BR	Brass	6
10.0"	64.532	.314	125-4000	220BR	Brass	7
12.0"	97.576	.358	175-5000	220BR	Brass	8
16.0"	167.59	.427	200-1000	220BR	Brass	9

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## EZ Pro™ Max series



**8710-S**  
Digital TDT™ Moisture Sensor

**8710-DC2**  
2-Zone Decoder

**8710-DC4**  
4-Zone Decoder

**8710-AOB16**  
16-Zone Converter Box

**8710-AOB32**  
32-Zone Converter Box

**8710-SPE**  
Serial Port Extender Kit

**8710-FM**  
Data Industrial Flow and Pressure Meter Interface

**8710 - RAD**  
Radio Receiver Interface for RCT Commander Radio

### FEATURES

**8710-S - Digital TDT™ Moisture Sensor**

- Measures the absolute water content of the soil by taking 3 independent readings – soil moisture, soil temperature & soil conductivity

**8710-DC2 - 2-Zone Decoder**

- Interface from 2 solenoid valves to the Nelson System
- Adapts to any 24V solenoid

**8710-DC4 - 4-Zone Decoder**

- Interface from 4 solenoid valves to the Nelson System
- Adapts to any 24V solenoid

**8710-AOB16 - 16-Zone Converter Box**

- Interface for 16 solenoid valves
- For indoor/outdoor above ground use
- Converts a traditionally wired system to a 2-wire system

**8710-AOB32 - 32-Zone Converter Box**

- Interface for 32 solenoid valves
- For indoor/outdoor use
- Converts a traditionally wired system to a 2-wire system

**8710-SPE - Serial Port Extender Kit**

- Allows serial communications with the controller up to distances of up to 1 mile

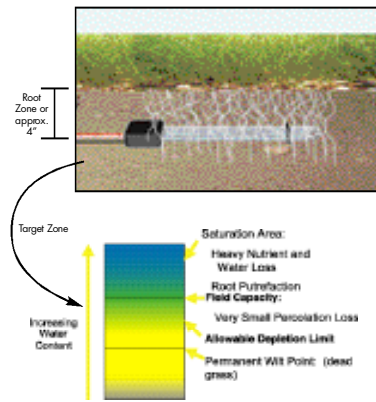
**8710-FM - Data Industrial Flow and Pressure Meter Interface**

- Compatible with only Data Industrial Flow Meters that can be found on Nelson's website at [www.NELSONTURF.com](http://www.NELSONTURF.com)

**8710 - RAD - Radio Receiver Interface for RCT Commander Radio**

- Allows the use of the RCT Commander Radio to run the Nelson controller

### How it Works



EZ Pro™ Max series  
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Nelson has expanded its controller line with the EZ Pro™ Jr. Indoor series. Using the same technology as the EZ Pro™ Series and the EZ Pro™ Jr. Series, the EZ Pro™ Jr. Indoor Series offers features that improve watering efficiency while promoting water conservation. By popular demand, Nelson has increased the zone run times for the EZ Pro™ Jr. and the EZ Pro™ Jr. Indoor to five hours and 59 minutes. Nelson controllers allow users the flexibility and convenience that makes it the best choice for many irrigation projects.

controllers



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## EZ Pro™ Jr. indoor series



EZ Pro™ Jr. Indoor series

18

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### FEATURES

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

### WATER MANAGEMENT FEATURES

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

**INDOOR ONLY**  
**8204 (8274)\***

4 zone

**8206 (8276)\***

6 zone

**8209 (8279)\***

9 zone

\* A country code is required after model number:

'ES' - South Africa, Australia, Spain, UK

'IT' - Italy

'PT' - Portugal

'FR' - France

### SPECIFICATIONS

#### Cabinet:

Durable plastic – indoor controller

#### # of Zones:

4, 6, 9

#### Case Dimensions:

7"H x 5 5/8"W x 2"D

#### 8204 to 8209 electrical:

INPUT: 120V AC, 60 Hz

OUTPUT: 24V AC, .83 Amp

#### 8274 to 8279 electrical:

INPUT: 230V AC, 50 Hz

OUTPUT: 24V AC, .83 Amp

#### Batteries:

Two AA alkaline batteries, (not included)

#### ETL, CETL Listed, CE:

FCC Part 15 Class B compliant



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**8304 (8374\*)** - 4 zone  
**8306 (8376\*)** - 6 zone  
**8309 (8379\*)** - 9 zone  
**8312 (8382\*)** - 12 zone

\* A country code is required after model number:

'ES' - South Africa, Australia, Spain, UK  
 'IT' - Italy  
 'PT' - Portugal  
 'FR' - France



### FEATURES

- Exclusive Select&Adjust™ programming
- Lithium battery back-up stores programs with-out AC power or AA batteries
- Stacking start times
- Three independent programs
- Three start times per program
- True calendar clock (Leap year compatible)
- Scheduling options: Odd/Even; Interval 1-30 days; 7-day Calendar; Event Day
- Zone run times from one minute to five hours 59 minutes
- Programmable delay between zones, one second to 30 minutes
- Quick push button rain sensor bypass
- Cycle Test, Manual with ManualAdvance™
- Two AA alkaline batteries keep correct time and date for 5 years
- Input and output surge protection
- 1.0 amp self resetting polyswitch for short-circuit zone protection
- 2 year warranty on materials and workmanship

### WATER MANAGEMENT FEATURES

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



### SPECIFICATIONS

#### Cabinet:

Weather resistant plastic

#### # of Zones:

4, 6, 9, 12

#### Case Dimensions:

8"H x 10"W x 4"D

#### 8304 to 8312 electrical:

INPUT: 120V AC, 60 Hz

OUTPUT: 24V AC, .83 Amp

#### 8374 to 8382 electrical:

INPUT: 230V AC, 50 Hz

OUTPUT: 24V AC, .83 Amp

#### Batteries:

Two AA alkaline batteries  
(not included)

#### ETL, CETL, and CE Listed:

FCC Part 15 Class B compliant

CE, IP24

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## EZ Pro™ series

- 8608 (8678\*)** - 8 zone
- 8612 (8682\*)** - 12 zone
- 8616 (8686\*)** - 16 zone
- 8620 (8690\*)** - 20 zone
- 8624 (8694\*)** - 24 zone

\* A country code is required after model number:  
'ES' - South Africa, Australia, Spain, UK  
'IT' - Italy  
'PT' - Portugal  
'FR' - France



### 8600

EZ Command Remote Programmer

8604



8600

## FEATURES

### EZ Pro™:

- Full function programming and operation through radio link for the EZ Command Remote Programmer (sold separately)
- Radio module is available factory installed or can be added on later
- Nelson exclusive Select&Adjust™ programming
- Non-volatile memory stores programs without AC power or batteries
- Two AA batteries keep correct time for one year
- Stacking start times
- Pump start programmable by zone
- Programmable Rain Delay to 99 days
- Three independent programs
- Four start times per program
- Three scheduling options to suit the needs of plant material or to comply with watering restrictions (7 day calendar, 1-30 day interval, true odd/even)
- Leap year compatible
- Water budget option reduces or increases watering 0-200 percent
- Advanced water budget to set water budget for each month of the year
- Three test cycles (Manual with ManualAdvance™ feature, Cycle, 3-minute test)
- Programmable run times from one minute to 9 hours 59 minutes
- Poly-fuse self resetting circuit protection
- 2 year warranty on materials and workmanship

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## SPECIFICATIONS

### Cabinet:

Weather resistant plastic

### # of Zones:

8, 12, 16, 20, 24

### Case Dimensions:

9"H x 12"W x 5"D

### 8608 to 8624 electrical:

INPUT: 120V AC, 60Hz

OUTPUT: 24V AC, 1.25 Amp

### 8678 to 8694 electrical:

INPUT: 230V AC, 50Hz

OUTPUT: 24V AC, 1.25 Amp

### Batteries:

Two AA alkaline batteries  
(not included)

Two C size alkaline batteries (8600)

### Radio:

2.4 Ghz spread spectrum transceiver  
(8600)

### UL, UL<sup>c</sup>, and CE Listed:

FCC Part 15 Class B compliant

CE, IP24

### 8600 EZ Command Remote Programmer:

- All the programming and operational features of the EZ Pro Controller in a hand held remote
- Independent programming and remote control of an unlimited number of EZ Pro controllers
- Secure signal provided by user set controller radio ID
- Range of signal is 1000 feet line-of-sight and 500 feet through most structures
- Saves time and money on system installation and system service
- Eliminates need to access controller inside buildings and homes

January 1, 2007

## EZ Pro™ controller accessories



**8602** EZ Command™ Radio Module

**8602ER** Kit (8602 Radio Not Included)

**8602C-25** 25' EZ Pro™ Radio Cable

**8602C-50** 50' EZ Pro™ Radio Cable

**8602C-100** 100' EZ Pro™ Radio Cable

**8609** EZ Pro™ Controller Pedestal

### SPECIFICATIONS

#### Cabinet:

Weather Resistant Plastic (8602ER)

#### Dimensions:

35"H x 10½"W (8609)

5"H x 5"W x 4"D (8602ER)

#### Radio:

2.4 Ghz spread spectrum transceiver (8602)

#### Electrical:

Low voltage (8602ER)

#### UL, UL<sup>c</sup>, and CE Listed:

FCC Part 15 Class B compliant



### FEATURES

#### 8602 EZ Command™ Radio Module:

- Upgrades base model EZ Pro by adding radio capability
- Easy to install – just plug it in!

#### EZ Pro™ 8602ER Extended Radio:

- Dramatically extends the connection range of any EZ Pro radio-equipped controller up to 2 miles<sup>1</sup> line-of-sight
- Offers the installer the option of relocating the 8602 Radio module to areas free from radio interference or shielding
- Accessories to complete the installation include: 8602C-25; 8602C-50; 8602C-100

<sup>1</sup> Ranges will vary depending on surrounding conditions

#### 8609 EZ Pro™ Controller pedestal:

- Designed to maximize radio performance on EZ Pro radio equipped models.
- Entire front panel removable for easy access to wiring
- Made of industrial grade non-rusting stainless steel
- Controller mounting hardware and instructions included

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EZ Pro™ Jr. series  
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## controller accessories



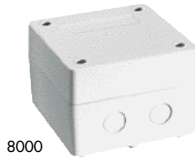
**8000**  
Pump Start Relay

**8501**  
Rain Sensor

### SPECIFICATIONS

ETL, CETL, and CE Listed:

FCC Part 15 Class B compliant



controller accessories

### FEATURES

#### 8000 Pump Start Relay:

##### Box Features

- Waterproof, dust proof, outdoor mount, foam seal
- Knockouts provided on all sides, 1/2" and 3/4"
- Sealing plugs provided to waterproof mounting screws

##### Relay Features

- Contactor UL, CSA approvals
- No exposed parts. Contacts and coil fully enclosed
- Finger-proof construction. No additional cover needed
- Pressure wire screw terminal accepts 24 to 10 AWG wire
- Single and three phase. One relay will fit many applications

1 Phase - 1HP	120 volt
2HP	200-240 volt
3 Phase - 3HP	200-240 volt
3HP	440-480 volt

#### 8501 Rain-Trip™ Rain Sensor:

- Unit ready for bracket mount or 1/2" conduit/pipe thread mount at bottom
- Adjusts easily from 1/8" to 1" rainfall
- Compatible with most controller brands (Ready for normally-closed or normally-open hookup)
- Supplied with 25 feet of hookup wire
- Saves unneeded watering
- Designed to be used with low voltage irrigation systems only

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Durability! Ease of installation! Simple adjustment! Just a few characteristics describing the most extensive gear drive line in the turf irrigation industry. Now, all Nelson pop-up gear drives come standard with the NIR<sup>2</sup> (Nozzle Insertion/Radius Reduction) adjustment feature. Other top quality features offered in each model include the patented Click-Set<sup>®</sup> disk for quick and easy pattern adjustment, Acu-Cover nozzles for better close-in watering and continuous full or part-circle options in one head. In addition, each series offers a stainless steel model for added durability. Twenty-seven models covering 18-74 feet, providing superior coverage, suitable to residential and commercial applications - Nelson gear drives!

**gear drive sprinklers**



January 1, 2007

## 5500 pro series



### 5500 PRO

Standard

### 5501 PRO

Shrub head

### 5505-ADV PRO

Stainless steel sleeve, heavy-duty spring, anti-drain valve (ADV) and locking screw

### 5512-ADV PRO

12" High-Pop, heavy-duty spring and anti-drain valve (ADV)

#### 5500 PRO SERIES

#### SPECIFICATIONS

##### Operating range:

20-65 psi (5500, 5501)

25-65 psi (5505, 5512)

##### Maximum pressure:

75 psi

##### Discharge:

0.5 to 2.5 gpm

##### Spray trajectory:

13°

##### Pop-up height:

4" (5500, 5505)

12" (5512)

##### Body height:

7½" (5501)

7¾" (5500, 5505)

16¾" (5512)

##### Exposed cap diameter:

1¾"

##### Cap diameter:

2¾"

##### Type of cap:

Rubber (5500, 5505, 5512)

Plastic (5501)

##### Inlet size:

¾" female (NPT and BSP)

##### Screen mesh:

.045 sq. in. / 1150 micron

##### ADV models:

Holds back up to 10' difference in elevation

##### # per box:

20

24 5500 pro series

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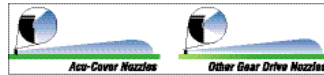
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Fax: 402-246-2072

**FEATURES**

- New - Low Profile Cap and Seal allows for less surface area for friction and increases the flush during retraction to help clear debris away
- New - Bayonet protective cap that works much like a medicine bottle cap and helps to insure the protective cap stays assembled
- NIR<sup>2</sup> feature (Nozzle Insertion/Radius Reduction) on all models eliminates the need to remove the cap for nozzle adjustments
- Four interchangeable Acu-Cover nozzles ranging from 0.5 to 2.5 gpm
- 5512 Pro pops up a full 12". Ideal for shrubs and ground cover areas, at the base of hillsides where risers are not appropriate and where liability is a concern
- Better pattern coverage than turning down a mid-range gear drive
- Water lubricated gear motor
- Click-Set<sup>®</sup> collars are quick and easy to adjust
- Continuous 360° rotation or part-circle adjustable 40° to 310°
- Silent slip clutch protects gears and motor from damage while adjusting turret for part-circle adjustments - wet or dry
- Wrench, piston clamp and installation instructions included (Model 5501 has no clamp)
- 5 year warranty on materials and workmanship



**5500 PRO SERIES**

Nozzle color ○  
13° trajectory



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

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



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5500 pro series  
25

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## 6000 pro series

6000 pro series  
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### 6000 PRO Standard

### 6001 PRO Shrub head

### 6002 PRO Heavy-duty spring and anti-drain valve (ADV)

### 6005 PRO Stainless steel sleeve, heavy-duty spring, anti-drain valve (ADV) and locking screw

### 6012 PRO 12" High-Pop, heavy-duty spring and anti-drain valve (ADV)

#### 6000 PRO SERIES



#### SPECIFICATIONS

##### Operating range:

20-65 psi (6000, 6001, 6002)  
25-65 psi (6005, 6012)

##### Maximum pressure:

75 psi

##### Discharge:

1.0 to 9.5 gpm

##### Spray trajectory:

25°  
(13° optional)

##### Pop-up height:

4" (6000, 6005)  
12" (6012)

##### Body height:

7 1/2" (6001)  
7 3/8" (6000, 6002, 6005)  
16 3/8" (6012)

##### Exposed cap diameter:

1 7/8"

##### Cap diameter:

2 7/8"

##### Type of cap:

Rubber (6000, 6002, 6005, 6012)  
Plastic (6001)

##### Inlet size:

3/4" female (NPT and BSP)

##### Screen mesh:

.045 sq. in./1150 micron

##### ADV models:

Holds back up to 10' difference  
in elevation

##### # per box:

20

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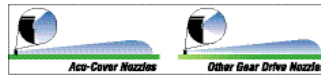
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## 6000 pro series

### FEATURES

- New - Low Profile Cap and Seal allows for less surface area for friction and increases the flush during retraction to help clear debris away
- New - Bayonet protective cap that works much like a medicine bottle cap and helps to insure the protective cap stays assembled
- NIR<sup>2</sup> feature (Nozzle Insertion/Radius Reduction) on all models eliminates the need to remove the cap for nozzle adjustments
- Eight interchangeable Acu-Cover nozzles ranging from 1.0 to 9.5 gpm



- Seven optional low-angle nozzles (13°) for windy areas or for throwing under trees
- Proven reliability of the water driven gear motor
- 6012 Pro pops up a full 12". Ideal for shrubs and ground cover areas, at the base of hillsides where risers are not appropriate and where liability is a concern
- Click-Set® collars are quick and easy to adjust
- Continuous 360° rotation or part-circle adjustable 40° to 310°
- Silent slip clutch protects gears and motor from damage while adjusting turret for part-circle adjustments - wet or dry
- Wrench, piston clamp and installation instructions included (Model 6001 has no clamp)
- 5 year warranty on materials and workmanship

Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>			
				IN/HR	IN/HR▲						BAR	kPa	m	m
20	30	23	1.0	0.21	0.27	4	1.4	138	9.2	6.9	3.8	0.23	5.4	6.8
35	31	23	1.4	0.28	0.35		2.5	242	9.5	7.1	5.3	0.32	7.1	8.9
50	34	26	1.7	0.28	0.35		3.5	345	10.4	7.8	6.4	0.39	7.2	9.0
20	33	25	1.2	0.21	0.26	5	1.4	138	10.1	7.5	4.5	0.27	5.4	6.7
35	37	28	1.6	0.23	0.28		2.5	242	11.3	8.5	6.1	0.36	5.7	7.1
50	38	29	1.9	0.25	0.32		3.5	345	11.6	8.7	7.2	0.43	6.4	8.0
20	32	24	1.4	0.26	0.33	6	1.4	138	9.8	7.3	5.3	0.32	6.7	8.3
35	38	29	1.9	0.25	0.32		2.5	242	11.6	8.7	7.2	0.43	6.4	8.0
50	40	30	2.3	0.28	0.35		3.5	345	12.2	9.2	8.7	0.52	7.0	8.8
20	38	29	2.2	0.29	0.37	7	1.4	138	11.6	8.7	8.3	0.50	7.5	9.3
35	40	30	2.7	0.33	0.41		2.5	242	12.2	9.2	10.2	0.61	8.3	10.3
50	41	31	3.1	0.36	0.44		3.5	345	12.5	9.4	11.7	0.70	9.0	11.3
35	38	29	3.1	0.41	0.52	8	2.5	242	11.6	8.7	11.7	0.70	10.5	13.1
50	42	32	4.0	0.44	0.54		3.5	345	12.8	9.6	15.1	0.91	11.1	13.8
65	43	32	4.6	0.48	0.60		4.6	449	13.1	9.8	17.4	1.04	12.2	15.2
35	42	32	4.2	0.46	0.57	9	2.5	242	12.8	9.6	15.9	0.95	11.6	14.5
50	47	35	5.4	0.47	0.59		3.5	345	14.3	10.8	20.4	1.23	12.0	14.9
65	48	36	6.3	0.53	0.66		4.6	449	14.6	11.0	23.8	1.43	13.4	16.7
35	42	32	5.4	0.59	0.74	10	2.5	242	12.8	9.6	20.4	1.23	15.0	18.7
50	48	36	6.8	0.57	0.71		3.5	345	14.6	11.0	25.7	1.54	14.4	18.0
65	49	37	8.0	0.64	0.80		4.6	449	14.9	11.2	30.3	1.82	16.3	20.3
35	42	32	6.4	0.70	0.87	11	2.5	242	12.8	9.6	24.2	1.45	17.7	22.1
50	48	36	8.1	0.68	0.84		3.5	345	14.6	11.0	30.7	1.84	17.2	21.4
65	51	38	9.5	0.70	0.88		4.6	449	15.6	11.7	36.0	2.16	17.9	22.3

### 6000 PRO SERIES

Nozzle color ●  
25° trajectory



Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>			
				IN/HR	IN/HR▲						BAR	kPa	m	m
20	26	20	0.9	0.26	0.32	4	1.4	138	7.9	5.9	3.4	0.20	6.5	8.1
35	33	25	1.3	0.23	0.29		2.5	242	10.1	7.5	4.9	0.30	5.8	7.3
50	34	26	1.5	0.25	0.31		3.5	345	10.4	7.8	5.7	0.34	6.3	7.9
20	26	20	1.1	0.31	0.39	5	1.4	138	7.9	5.9	4.2	0.25	8.0	9.9
35	33	25	1.4	0.25	0.31		2.5	242	10.1	7.5	5.3	0.32	6.3	7.8
50	35	26	1.7	0.27	0.33		3.5	345	10.7	8.0	6.4	0.39	6.8	8.5
20	26	20	1.4	0.40	0.50	6	1.4	138	7.9	5.9	5.3	0.32	10.1	12.6
35	33	25	1.9	0.34	0.42		2.5	242	10.1	7.5	7.2	0.43	8.5	10.6
50	36	27	2.3	0.34	0.43		3.5	345	11.0	8.2	8.7	0.52	8.7	10.8
20	31	23	2.5	0.50	0.62	7	1.4	138	9.5	7.1	9.5	0.57	12.7	15.9
35	35	26	3.1	0.49	0.61		2.5	242	10.7	8.0	11.7	0.70	12.4	15.4
50	37	28	3.5	0.49	0.61		3.5	345	11.3	8.5	13.2	0.79	12.5	15.6
35	32	24	3.2	0.60	0.75	8	2.5	242	9.8	7.3	12.1	0.73	15.3	19.1
50	38	29	4.0	0.53	0.67		3.5	345	11.6	8.7	15.1	0.91	13.6	16.9
65	39	29	4.7	0.60	0.74		4.6	449	11.9	8.9	17.8	1.07	15.1	18.9
35	34	26	3.9	0.85	0.81	9	2.5	242	10.4	7.8	14.8	0.89	16.5	20.6
50	37	28	4.9	0.69	0.86		3.5	345	11.3	8.5	18.5	1.11	17.5	21.8
65	40	30	5.7	0.69	0.86		4.6	449	12.2	9.2	21.6	1.29	17.4	21.7
35	33	25	5.1	0.90	1.12	10	2.5	242	10.1	7.5	19.3	1.16	22.9	28.6
50	39	29	6.4	0.81	1.01		3.5	345	11.9	8.9	24.2	1.45	20.6	25.7
65	42	32	7.5	0.82	1.02		4.6	449	12.8	9.6	28.4	1.70	20.8	25.9

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

### 6095 LOW ANGLE

Nozzle color ●  
13° trajectory  
(optional for 6000 series only)



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6000 pro series  
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## 6500 pro series

### 6500 PRO(6510)

Standard with anti-drain valve (ADV)

### 6503 PRO(6513)

High speed rotation and stainless steel piston sleeve

### 6505 PRO(6515)

Stainless steel piston sleeve, heavy-duty spring and anti-drain valve (ADV)

*Note: Versions in parenthesis feature BSP threading*



#### 6500 PRO SERIES

### SPECIFICATIONS

#### Operating range:

40-75 psi

#### Maximum pressure:

80 psi

#### Discharge:

2.3 to 12.6 gpm

#### Spray trajectory:

25°

#### Pop-up height:

4"

#### Body height:

8"

#### Exposed cap diameter:

1 7/8"

#### Cap diameter:

2 7/8"

#### Type of cap:

Rubber with locking screw

#### Inlet size:

1" female NPT (6500, 6503, 6505)

1" female BSP (6510, 6513, 6515)

#### Screen mesh:

.045 sq. in. / 1150 micron

#### ADV models:

Holds back up to 10' difference in elevation

#### # per box:

20

6500 pro series  
28

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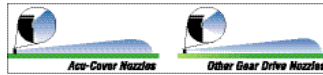
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**FEATURES**

- New - Bayonet protective cap that works much like a medicine bottle cap and helps to insure the protective cap stays assembled
- NIR<sup>2</sup> feature (Nozzle Insertion/Radius Reduction) on all models eliminates the need to remove the cap for nozzle adjustments
- Click-Set<sup>®</sup> collars are quick and easy to adjust
- Continuous 360° rotation or part-circle adjustment 40° to 310°
- Silent slip clutch protects gears and motor from damage while adjusting turret for part-circle adjustments - wet or dry
- 6503 Pro offers one minute revolution for quick syringe applications
- Heavy-duty case with stabilizer ribs increases stability even in loose soil
- Wrench, piston clamp and installation instructions included
- 5 year warranty on materials and workmanship
- Four interchangeable Acu-Cover nozzles ranging from 2.3 to 12.6 gpm
- Rubber cap has locking screw (6092) for vandal protection (standard on all units)
- Proven reliability of the water driven gear motor



**6500 PRO SERIES**  
Nozzle color ●  
25° trajectory

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



**6503/6513 PRO HIGH SPEED**  
Nozzle color ●  
25° trajectory

Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>			
				IN/HR■	IN/HR▲						BAR	kPa	m	m
45	43	32	2.8	0.29	0.34	61	3.1	310	13.1	9.8	10.6	0.64	32.3	37.3
60	43	32	3.3	0.34	0.40		4.1	414	13.1	9.8	12.5	0.75	38.1	44.0
75	43	32	3.8	0.40	0.46		5.2	517	13.1	9.8	14.4	0.86	43.8	50.6
45	44	33	5.2	0.52	0.60	62	3.1	310	13.4	10.1	19.7	1.18	57.3	66.1
60	46	35	6.1	0.56	0.64		4.1	414	14.0	10.5	23.1	1.39	61.5	71.0
75	47	35	7.0	0.61	0.71		5.2	517	14.3	10.7	26.5	1.59	67.6	78.0
45	48	36	7.4	0.62	0.72	63	3.1	310	14.6	11.0	28.0	1.68	68.5	79.1
60	50	38	8.8	0.68	0.79		4.1	414	15.2	11.4	33.3	2.00	75.1	86.7
75	50	38	10.1	0.78	0.90		5.2	517	15.2	11.4	38.2	2.29	86.2	99.5
45	46	35	9.7	0.89	1.02	64	3.1	310	14.0	10.5	36.7	2.20	97.8	112.9
60	49	37	11.6	0.83	1.08		4.1	414	14.9	11.2	43.9	2.63	103.0	119.0
75	51	38	13.2	0.86	1.13		5.2	517	15.5	11.7	50.0	3.00	108.2	125.0

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

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6500 pro series  
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pro 7000 series

30 pro 7000 series

**7000 (7010E) PRO**

Standard with anti-drain valve (ADV)

**7005 (7015E)**

Stainless steel piston sleeve, heavy-duty spring and anti-drain valve (ADV)

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



**SPECIFICATIONS**

**Operating range:**

40-90 psi

**Maximum pressure:**

100 psi

**Discharge:**

6.7 to 18.4 gpm

**Spray trajectory:**

25°

**Pop-up height:**

4 1/2"

**Body height:**

9 1/2"

**Exposed cap diameter:**

2 1/2"

**Type of cap:**

Rubber with locking screw

**Inlet size:**

1" female NPT (7000, 7015)

1" female BSP (7010E, 7015E)

**Screen mesh:**

.045 sq. in. / 1150 micron

**ADV models:**

Holds back up to 10' difference in elevation

**# per box:**

10

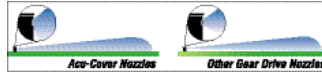


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**FEATURES**

- NIR<sup>2</sup> feature (Nozzle Insertion/Radius Reduction) on all models eliminates the need to remove the cap for nozzle adjustments
- Five interchangeable Acu-Cover nozzles ranging from 6.7 to 18.4 gpm
- Rubber cap has two locking screws for vandal protection
- Click-Set<sup>®</sup> collars are quick and easy to adjust
- Gear drive may be installed 1/2" below grade
- Proven reliability of the water driven gear motor
- Continuous 360° rotation or part-circle adjustable 40° to 310°
- Heavy-duty case with stabilizer ribs increases stability even in loose soil
- Ratcheting slip clutch protects gears and motor from damage while adjusting turret for part-circle adjustments - wet or dry
- Wrench, piston clamp and installation instructions included
- 5 year warranty on materials and workmanship



**PRO 7000 SERIES**  
Nozzle color ○  
25° trajectory



Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>			
				IN/HR	IN/HR▲						L/min	m <sup>3</sup> /hr	mm/hr	mm/hr▲
45	41	31	5.6	0.64	0.74	1	3.1	310	12.5	9.4	21.2	1.27	16.3	18.8
60	42	32	5.9	0.64	0.74		4.1	414	12.8	9.6	22.3	1.34	16.4	18.9
75	42	32	7.2	0.79	0.91		5.2	517	12.8	9.6	27.3	1.64	20.0	23.0
90	43	32	7.8	0.81	0.94	2	6.2	621	13.1	9.8	29.5	1.77	20.6	23.8
45	48	36	6.9	0.59	0.67		3.1	310	14.6	11.0	26.1	1.57	14.6	16.9
60	49	37	7.8	0.63	0.72		4.1	414	14.9	11.2	28.5	1.77	15.9	18.3
75	49	37	8.9	0.71	0.82	3	5.2	517	14.9	11.2	33.7	2.02	18.1	20.9
90	50	38	9.8	0.75	0.87		6.2	621	15.2	11.4	37.1	2.23	19.2	22.1
45	52	39	8.7	0.62	0.72		3.1	310	15.9	11.9	32.9	1.98	15.7	18.2
60	53	40	9.9	0.68	0.78	4	4.1	414	16.2	12.1	37.5	2.25	17.2	19.9
75	53	40	11.3	0.77	0.89		5.2	517	16.2	12.1	42.8	2.57	19.7	22.7
90	54	41	12.4	0.82	0.95		6.2	621	16.5	12.3	46.9	2.82	20.8	24.0
45	54	41	10.7	0.71	0.82	5	3.1	310	16.5	12.3	40.5	2.43	17.9	20.7
60	55	41	12.2	0.78	0.90		4.1	414	16.8	12.6	46.2	2.77	19.7	22.8
75	56	42	14.0	0.86	0.99		5.2	517	17.1	12.8	53.0	3.18	21.8	25.2
90	58	44	15.3	0.88	1.01	6	6.2	621	17.7	13.3	57.9	3.48	22.2	25.7
45	55	41	11.5	0.73	0.85		3.1	310	16.9	12.6	43.5	2.61	18.6	21.5
60	57	43	13.2	0.78	0.90		4.1	414	17.4	13.0	50.0	3.00	19.9	22.9
75	57	43	15.1	0.89	1.03	6	5.2	517	17.4	13.0	57.2	3.43	22.7	26.2
90	59	44	16.4	0.91	1.05		6.2	621	18.0	13.5	62.1	3.73	23.0	26.6
45	56	42	13.7	0.84	0.97		3.1	310	17.1	12.8	51.9	3.11	21.4	24.7
60	59	44	15.7	0.87	1.00	6	4.1	414	18.0	13.5	59.4	3.57	22.1	25.5
75	61	46	18.8	0.97	1.12		5.2	517	18.6	13.9	71.2	4.27	24.7	28.5
90	63	47	19.6	0.95	1.10		6.2	621	19.2	14.4	74.2	4.45	24.1	27.9

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

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pro 7000 series  
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pro 7500 series

32 pro 7500 series

**7500 (7510E) PRO**

Standard with anti-drain valve (ADV)

**7503 (7513E)**

High speed rotation, stainless steel piston sleeve, and anti-drain valve (ADV)

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



7500 PRO SERIES



**SPECIFICATIONS**

**Operating range:**

40-90 psi

**Maximum pressure:**

100 psi

**Discharge:**

9.4 to 27.5 gpm

**Spray trajectory:**

25°

**Pop-up height:**

4½"

**Body height:**

9½"

**Exposed cap diameter:**

2½"

**Type of cap:**

Rubber with locking screw

**Inlet size:**

1" female NPT (7500, 7503)

1" female BSP (7510E, 7513E)

**Screen mesh:**

.045 sq. in. / 1150 micron

**ADV models:**

Holds back up to 10' difference in elevation

**# per box:**

10

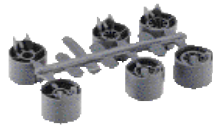
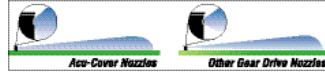


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January 1, 2007

**FEATURES**

- NIR<sup>2</sup> feature (Nozzle Insertion/Radius Reduction) on all models eliminates the need to remove the cap for nozzle adjustments
- Six interchangeable Acu-Cover nozzles ranging from 6.7 to 18.4 gpm
- Rubber cap has two locking screws for vandal protection
- Click-Set® collars are quick and easy to adjust
- Gear drive may be installed 1/2" below grade
- Proven reliability of the water driven gear motor
- Continuous 360° rotation or part-circle adjustable 40° to 310°
- Heavy-duty case with stabilizer ribs increases stability even in loose soil
- Ratcheting slip clutch protects gears and motor from damage while adjusting turret for part-circle adjustments - wet or dry
- Wrench, piston clamp and installation instructions included
- 5 year warranty on materials and workmanship



**PRO 7500 SERIES**  
Nozzle color ●  
25° trajectory



**PRO 7503/7513**  
**HIGH SPEED**  
Nozzle color ●  
25° trajectory

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

Pressure					Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure					Discharge	Precipitation Rate <sup>1</sup>	
PSI	Max Radius FT	Min Radius FT	FT	GPM		IN/HR	IN/HR▲		BAR	kPa	Max Radius m	Min Radius m	L/min		m <sup>3</sup> /hr	mm/hr
45	48	36	9.4	0.73	0.98	<b>3</b>	3.1	310	14.6	11.0	35.6	2.13	20.0	24.9		
60	50	38	10.9	0.84	1.05		4.1	414	15.3	11.4	41.3	2.47	21.3	26.6		
75	50	38	12.2	0.94	1.17		5.2	517	15.3	11.4	46.2	2.77	23.9	29.8		
90	53	40	13.4	0.92	1.15		6.2	621	16.2	12.1	50.7	3.04	23.3	29.1		
45	51	38	11.4	0.84	1.05	<b>4</b>	3.1	310	15.6	11.7	43.1	2.59	21.4	26.7		
60	54	41	13.2	0.87	1.09		4.1	414	16.5	12.4	50.0	3.00	22.1	27.6		
75	55	41	14.9	0.95	1.18		5.2	517	16.8	12.6	56.4	3.38	24.1	30.0		
90	55	41	16.4	1.04	1.30		6.2	621	16.8	12.6	62.1	3.72	26.5	33.1		
45	52	39	12.3	0.88	1.09	<b>5</b>	3.1	310	15.9	11.9	46.6	2.79	22.3	27.8		
60	55	41	14.4	0.92	1.14		4.1	414	16.8	12.6	54.5	3.27	23.3	29.0		
75	57	43	16.2	0.96	1.20		5.2	517	17.4	13.0	61.3	3.68	24.4	30.4		
90	58	44	17.8	1.02	1.27		6.2	621	17.7	13.3	67.4	4.04	25.9	32.3		
60	58	44	17.5	1.00	1.25	<b>6</b>	4.1	414	17.7	13.3	66.2	3.97	25.4	31.7		
75	60	45	20.0	1.07	1.33		5.2	517	18.3	13.7	75.7	4.54	27.2	33.9		
90	61	46	22.1	1.14	1.43		6.2	621	18.6	14.0	83.6	5.02	29.1	36.2		
60	58	44	19.6	1.12	1.40		4.1	414	17.7	13.3	74.2	4.45	28.5	35.5		
75	60	45	21.3	1.14	1.42	<b>7</b>	5.2	517	18.3	13.7	80.6	4.84	28.9	36.1		
90	61	46	24.6	1.27	1.59		6.2	621	18.6	14.0	93.1	5.58	32.3	40.3		
60	59	44	21.8	1.21	1.50		4.1	414	18.0	13.5	82.5	4.95	30.6	38.2		
75	61	46	24.8	1.28	1.60		5.2	517	18.6	14.0	93.9	5.63	32.6	40.7		
90	64	48	27.5	1.29	1.61	6.2	621	19.5	14.6	104.1	6.24	32.8	41.0			

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

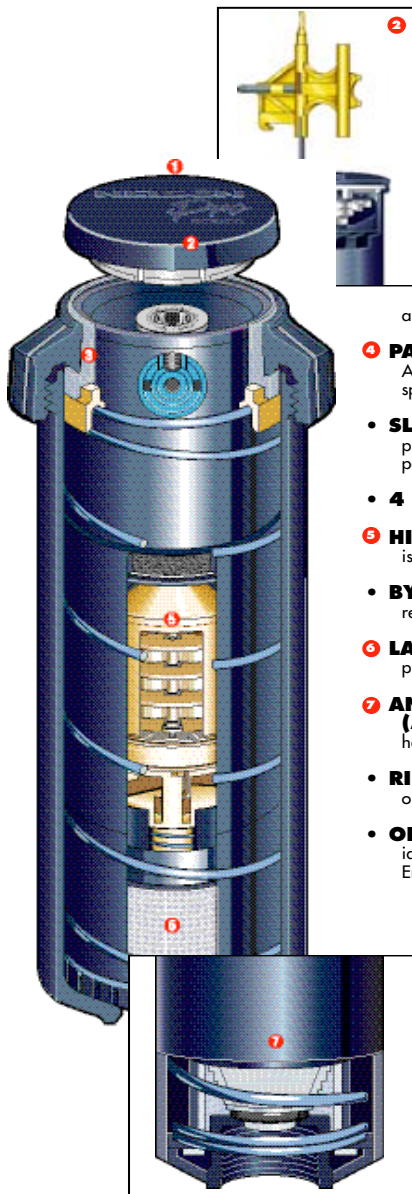
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pro 7500 series  
33

January 1, 2007

## 5500, 6000, 6500 pro series features

34 5500, 6000, 6500 pro series features



- **CONTINUOUS FULL OR PART-CIRCLE IN ONE SPRINKLER**

**1 NEW - BAYONET PROTECTIVE CAP** that works much like a medicine bottle cap and helps to insure the protective cap stays assembled. It is safe and vandal resistant when optional screw is installed. All models are designated with model number stamped in rubber cover for easy identification.

**2 NIR<sup>2</sup>** (Nozzle Insertion/Radius Reduction)

- **STANDARD SELF RETAINING LOCKING SCREW** makes all models vandal resistant

**3 DOUBLE-LIPPED WIPER SEAL**

and stainless steel retraction spring reduce unnecessary service calls by assuring positive retraction, even in sandy soils

**4 PATENTED CLICK-SET<sup>®</sup> DISK**

Adjustable part-circle patterns in 5° increments. Memory ring assures pattern even if sprinkler is turned outside set pattern

- **SLIP CLUTCH**

protects gears and motor from damage while adjusting the sprinkler for part-circle adjustments - wet or dry

- **4 INCH POP-UP HEIGHT**

**5 HIGH TORQUE PLANETARY GEAR MOTOR**

is water lubricated to provide oil-free, quiet, reliable performance

- **BYPASS VALVE**

reduces pressure loss and standardizes rotation speed regardless of nozzle size

**6 LARGE AREA FILTER**

protects working parts with less frequent cleaning

**7 ANTI-DRAIN VALVE AND HEAVY-DUTY SPRING (ADV models only)**

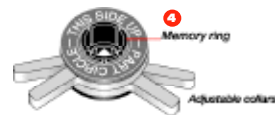
helps eliminate low head drainage and puddling

- **RIBBED CASE**

on the 6500-ADV Series provides stability in loose soil

- **OPTIONAL LAVENDER RUBBER COVER (Model 6090)**

identifies reclaimed water site - molded in "RECLAIMED WATER - DO NOT DRINK" in English and Spanish



**Model 6090**  
Lavender Cover

**Model 6006**  
6000 Pro with preinstalled lavender cap for reclaimed water usage

Note: Any orders for the 6006 may require a 4 week lead time.

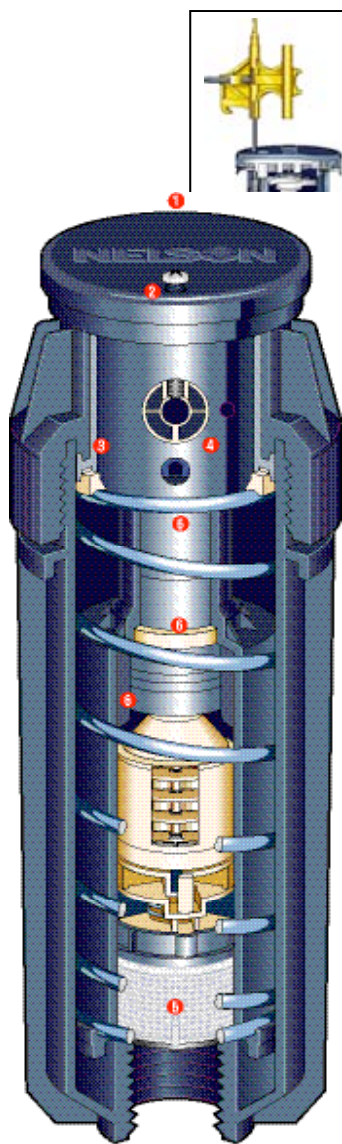
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pro 7000, 7500 series features



- **CONTINUOUS FULL OR PART-CIRCLE IN ONE SPRINKLER**
- **4 1/2 INCH POP-UP HEIGHT**

**1 RUBBER COVER**  
is safe and vandal resistant. All models are designated with model number stamped in rubber cover for easy identification

**2 NIR<sup>2</sup> (Nozzle Insertion/Radius Reduction)**

**3 STANDARD SELF RETAINING LOCKING SCREW**  
makes all models vandal resistant

**4 DOUBLE-LIPPED WIPER SEAL**  
and stainless steel retraction spring reduce unnecessary service calls by assuring positive retraction, even in sandy soils

**5 RANGE AND SPREADER NOZZLE SET**  
create Acu-Cover performance

**6 PATENTED CLICK-SET<sup>®</sup> DISK**  
Adjustable part-circle patterns in 5° increments. Memory ring resets to desired pattern even if sprinkler is turned outside set pattern

**7 RATCHETING SLIP CLUTCH**  
protects gears and motor from damage while adjusting the sprinkler for part-circle adjustments - wet or dry

**8 WATER LUBRICATED PLANETARY GEAR MOTOR**  
provides oil-free, quiet, reliable performance

**BYPASS VALVE**  
reduces pressure loss and standardizes rotation speed regardless of nozzle size

**HEAVY-DUTY CASE WITH STABILIZER RIBS**  
increases stability even in loose soils. Designed to resist sand and debris

**6 LARGE AREA FILTER**  
protects working parts with less frequent cleaning

**6 TRIPLE BEARINGS**  
support the rotating turret for increased durability

**ANTI-DRAIN VALVE AND HEAVY-DUTY SPRING**  
helps eliminate low head drainage and puddling

**OPTIONAL SOD CUP KIT (MODEL 6101)**

**OPTIONAL LAVENDER COVER (MODEL 6102)**  
identifies reclaimed water site - molded in "RECLAIMED WATER - DO NOT DRINK" in English and Spanish



**Model 6101**  
Sod Cup Kit



**Model 6102**  
Lavender Cover

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pro 7000, 7500 series features 35

January 1, 2007

## 6100 pro series



6100



### 6100 PRO I Standard

#### 6100 PRO SERIES



#### SPECIFICATIONS

**Operating range:**

30 – 70 psi

**Maximum pressure:**

70 psi

**Discharge:**

1.0 – 9.5 gpm

**Spray trajectory:**

25°

(13° optional)

**Pop-up height:**

5½"

**Body height:**

7¾"

**Exposed cap diameter:**

1¾"

**Cap diameter:**

2¾"

**Type of cap:**

Rubber

**Inlet size:**

¾" female (NPT and BSP)

**Screen mesh:**

.045 sq. in. / 1150 micron

**# per box:**

20

36 6100 pro series

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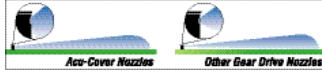
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Fax: 402-246-2072

## 6100 pro series features



### FEATURES

- 3/4" Inlet – Replaces all standard rotors
- Riser fits in existing Hunter® PGP® cans - simply unscrew the existing riser from the PGP® can and replace with the 6100 riser
- Top Adjustment – no training necessary
- Full and Part circle rotation
- Rubber Cover – Seals out dirt and increases product durability
- Wide Selection of Nozzles - Provides flexibility in system design

Pressure	Max Radius		Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure	Max Radius		Discharge	Precipitation Rate <sup>1</sup>				
	PSI	FT		FT	GPM			IN/HR	IN/HR		BAR	kPa	m	m	L/min
20	30	23	1.0	0.21	0.27	4	1.4	138	9.2	6.9	3.8	0.23	5.4	6.8	
	35	31	2.3	1.4	0.28		0.35	2.5	242	9.5	7.1	5.3	0.32	7.1	8.9
	50	34	2.6	1.7	0.28		0.35	3.5	345	10.4	7.8	6.4	0.39	7.2	9.0
20	33	25	1.2	0.21	0.26	5	1.4	138	10.1	7.5	4.5	0.27	5.4	6.7	
	35	37	2.8	1.6	0.23		0.28	2.5	242	11.3	8.5	6.1	0.36	5.7	7.1
	50	38	2.9	1.9	0.25		0.32	3.5	345	11.6	8.7	7.2	0.43	6.4	8.0
20	32	24	1.4	0.26	0.33	6	1.4	138	9.8	7.3	5.3	0.32	6.7	8.3	
	35	38	2.9	1.9	0.25		0.32	2.5	242	11.6	8.7	7.2	0.43	6.4	8.0
	50	40	3.0	2.3	0.28		0.35	3.5	345	12.2	9.2	8.7	0.52	7.0	8.8
20	38	29	2.2	0.29	0.37	7	1.4	138	11.6	8.7	8.3	0.50	7.5	9.3	
	35	40	3.0	2.7	0.33		0.41	2.5	242	12.2	9.2	10.2	0.61	8.3	10.3
	50	41	3.1	3.1	0.36		0.44	3.5	345	12.5	9.4	11.7	0.70	9.0	11.3
35	38	29	3.1	0.41	0.52	8	2.5	242	11.6	8.7	11.7	0.70	10.5	13.1	
	50	42	3.2	4.0	0.44		0.54	3.5	345	12.8	9.6	15.1	0.91	11.1	13.8
	65	43	3.2	4.6	0.48		0.60	4.6	449	13.1	9.8	17.4	1.04	12.2	15.2
35	42	32	4.2	0.46	0.57	9	2.5	242	12.8	9.6	15.9	0.95	11.6	14.5	
	50	47	3.5	5.4	0.47		0.59	3.5	345	14.3	10.8	20.4	1.23	12.0	14.9
	65	48	3.6	6.3	0.53		0.66	4.6	449	14.6	11.0	23.8	1.43	13.4	16.7
35	42	32	5.4	0.59	0.74	10	2.5	242	12.8	9.6	20.4	1.23	15.0	18.7	
	50	48	3.6	6.8	0.57		0.71	3.5	345	14.6	11.0	25.7	1.54	14.4	18.0
	65	49	3.7	8.0	0.64		0.80	4.6	449	14.9	11.2	30.3	1.82	16.3	20.3
35	42	32	6.4	0.70	0.87	11	2.5	242	12.8	9.6	24.2	1.45	17.7	22.1	
	50	48	3.6	8.1	0.68		0.84	3.5	345	14.6	11.0	30.7	1.84	17.2	21.4
	65	51	3.8	9.5	0.70		0.88	4.6	449	15.6	11.7	36.0	2.16	17.9	22.3

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

### 6000 PRO I SERIES

Nozzle color ●  
25° trajectory



6100 pro series features 37

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## 6100 pro series features

Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>		Nozzle Number	Pressure	Max Radius	Min Radius	Discharge	Precipitation Rate <sup>1</sup>			
				IN/HR	IN/HR						mm/hr	mm/hr		
20	26	20	0.9	0.26	0.32	4	1.4	138	7.9	5.9	3.4	0.20	6.5	8.1
35	33	25	1.3	0.23	0.29		2.5	242	10.1	7.5	4.9	0.30	5.8	7.3
50	34	26	1.5	0.25	0.31		3.5	345	10.4	7.8	5.7	0.34	6.3	7.9
20	25	20	1.1	0.31	0.39	5	1.4	138	7.9	5.9	4.2	0.25	8.0	9.9
35	33	25	1.4	0.25	0.31		2.5	242	10.1	7.5	5.3	0.32	6.3	7.8
50	35	26	1.7	0.27	0.33		3.5	345	10.7	8.0	6.4	0.39	6.8	8.5
20	26	20	1.4	0.40	0.50	6	1.4	138	7.9	5.9	5.3	0.32	10.1	12.6
35	33	25	1.9	0.34	0.42		2.5	242	10.1	7.5	7.2	0.43	8.5	10.6
50	36	27	2.3	0.34	0.43		3.5	345	11.0	8.2	8.7	0.52	8.7	10.8
20	31	23	2.5	0.50	0.62	7	1.4	138	9.5	7.1	9.5	0.57	12.7	15.9
35	35	26	3.1	0.49	0.61		2.5	242	10.7	8.0	11.7	0.70	12.4	15.4
50	37	28	3.5	0.49	0.61		3.5	345	11.3	8.5	13.2	0.79	12.5	15.6
35	32	24	3.2	0.60	0.75	8	2.5	242	9.8	7.3	12.1	0.73	15.3	19.1
50	38	29	4.0	0.53	0.67		3.5	345	11.6	8.7	15.1	0.91	13.6	16.9
65	39	29	4.7	0.60	0.74		4.6	449	11.9	8.9	17.8	1.07	15.1	18.9
35	34	26	3.9	0.65	0.81	9	2.5	242	10.4	7.8	14.8	0.89	16.5	20.6
50	37	28	4.9	0.69	0.86		3.5	345	11.3	8.5	16.5	1.11	17.5	21.9
65	40	30	5.7	0.69	0.86		4.6	449	12.2	9.2	21.6	1.29	17.4	21.7
35	33	25	5.1	0.90	1.12	10	2.5	242	10.1	7.5	19.3	1.16	22.9	28.6
50	39	29	6.4	0.81	1.01		3.5	345	11.9	8.9	24.2	1.45	20.6	25.7
65	42	32	7.5	0.82	1.02		4.6	449	12.8	9.6	28.4	1.70	20.8	25.9

## 6095 LOW ANGLE

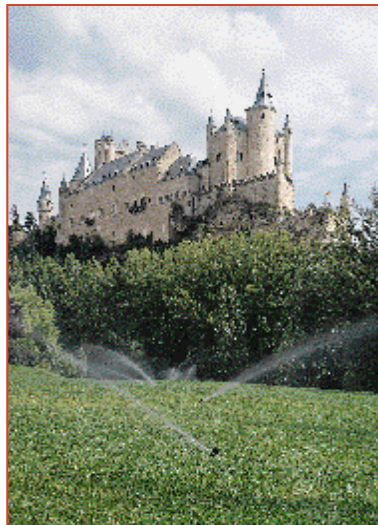
Nozzle color ●  
13° trajectory  
(optional for  
6000 series only)



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

38 6100 pro series features

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Nelson pop-up spray heads provide effective coverage for residential and commercial applications. Seven pop-up heights, five Multi-Arc™ nozzles, 22 fixed pattern nozzles, six ADV models and a variety of optional accessories provide for a wide range of installation needs. Nelson spray heads accept all standard female thread pop-up spray nozzles and the flush cap helps flush the system and ease nozzle installation. ADV models incorporate a heavy-duty spring and anti-drain valve to hold back up to a 10 foot elevation difference making them ideal for use in sloped areas.

spray head sprinklers



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## spray head sprinklers

40 spray head sprinklers



### 6302

2½" Pop-up

### 6304, 6404-ADV

4" Pop-up, 4" Pop-up with heavy-duty spring and anti-drain valve (ADV)

### 6306, 6406-ADV

6" Pop-up, 6" Pop-up with heavy-duty spring and anti-drain valve (ADV)

### 6312, 6412-ADV

12" Pop-up, 12" Pop-up with heavy-duty spring and anti-drain valve (ADV)

## SPECIFICATIONS

### Operating range:

15-60 psi (6300 series)  
20-60 psi (6400 series)

### Optimum working pressure:

30 psi

### Maximum working pressure:

60 psi

### Sealing pressure:

Less than 10 psi (6300 series)  
Less than 20 psi (6400 series)

### Pop-up height:

2½" (6302)  
4" (6304, 6404-ADV)  
6" (6306, 6406-ADV)  
12" (6312, 6412-ADV)

### Body height:

3½" (6302)  
3¾" (6304, 6404-ADV)  
5¾" (6306, 6406-ADV)  
15" (6312, 6412-ADV)

### Flush rate:

0.2 gpm

### Inlet size:

½" female

### ADV models:

Holds back up to 10' difference in elevation

### Screen mesh:

.045 sq. in./1150 micron

### # per box:

100 (6302, 6304, 6404, 6306, 6406)  
50 (6312, 6412)

## ACCESSORIES

### 6318 PISTON EXTENSION:

Model 6318 adds 6" to any series pop-up – perfect for landscape areas that need extra clearance. It threads directly onto the top of the piston and accepts all Nelson spray nozzles.

### 7300 ADJUSTABLE BUBBLER:

Model 7300 provides an umbrella pattern that can be adjusted with a stainless steel set screw. Bubbler installs on standard ½" riser and has a maximum flow of 2 gpm at 18" radius.

### 6390 NON-POTABLE IDENTIFICATION CAP:

- Identifies reclaimed water site in English and Spanish
- Lavender cap easily snaps onto top of Nelson spray heads



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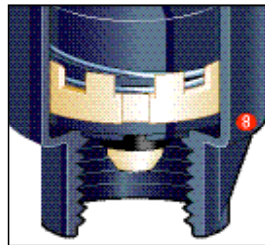
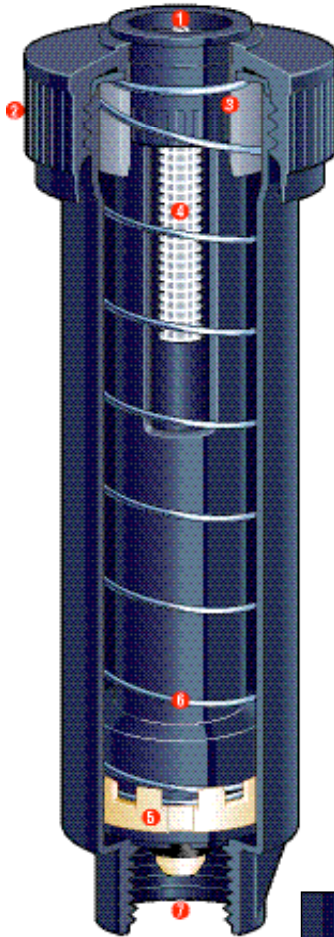
Pressure	Radius <sup>1</sup>	Discharge <sup>1</sup>	Model	Pressure	Radius <sup>1</sup>	Discharge <sup>1</sup>
PSI	FT	GPM		BAR	m	L/min
20	0.8	2.9	7300 FULL (360°)	1.4	0.2	11.0
30	0.9	3.5		2.1	0.3	13.2
40	1.1	4.1		2.8	0.3	15.5
50	1.2	4.5		3.5	0.4	17.0
60	1.2	4.9		4.2	0.4	18.5

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

January 1, 2007

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- **PRECISE SPRAY PATTERNS**  
helps eliminate wasted water and dry spots
- 1 **STAINLESS STEEL ADJUSTMENT SCREW**  
reduces radius. Will not rust
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flushes sand and debris away from piston
- 3 **DOUBLE-LIPPED WIPER SEAL**  
insures that sand and debris are kept out of the body and seal
- 4 **ONE PIECE FILTER SCREEN AND SEAT**  
insure the reliability and quality of the spray pattern
- 5 **FRICTION COLLAR**  
cuts installation time and allows 360° adjustment of the piston to align pattern exactly
- **ABS HEAVY-DUTY PLASTIC MATERIALS**  
used on all pop-up bodies and nozzles is proven strong and tough in sprinkler applications
- 6 **STAINLESS STEEL RETRACTION SPRING**  
assures positive piston retraction
- 7 **1/2" BOTTOM INLET**  
standard on all models. Additional side inlet on 12" models
- 8 **ANTI-DRAIN VALVE AND HEAVY-DUTY SPRING (Pro 6400-ADV)**  
helps eliminate low head drainage and puddling. Holds back up to 10' difference in elevation
- **MATCHED PRECIPITATION NOZZLES**  
apply water at the same rate regardless of arc
- **5-YEAR WARRANTY**  
on materials and workmanship

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January 1, 2007

# spray head nozzle performance

42 spray head nozzle performance

## 8' FIXED PATTERN (8' Radius, 5° Trajectory - flat)

Pressure			Discharge			Precipitation Rate			Model			Precipitation Rate		
PSI	FT. R	GPM	IN/HR	MM/HR	▲	BARS	M	MH	L/min	MM/HR	▲	PSI	FT. R	GPM
15	6	1.0	2.3	2.8		1.1	104	1.8	0.23	5.8	71.1	15	6	1.0
20	7	1.2	2.1	2.6		1.4	138	2.1	0.27	4.5	53.3	20	7	1.2
25	7	1.2	2.0	2.5		1.8	173	2.1	0.27	4.5	53.3	25	7	1.2
30	8	1.5	1.9	2.4		2.1	207	2.4	0.24	5.7	48.2	30	8	1.5
15	6	0.5	2.3	2.8		1.1	104	1.8	0.11	1.9	58.4	15	6	0.5
20	7	0.6	2.1	2.6		1.4	138	2.1	0.14	2.3	53.3	20	7	0.6
25	7	0.6	2.0	2.5		1.8	173	2.1	0.14	2.3	53.3	25	7	0.6
30	8	0.7	1.9	2.3		2.1	207	2.4	0.16	2.6	48.2	30	8	0.7
15	6	0.3	2.3	2.8		1.1	104	1.8	0.07	1.1	58.4	15	6	0.3
20	7	0.3	2.1	2.6		1.4	138	2.1	0.07	1.1	53.3	20	7	0.3
25	7	0.3	2.0	2.5		1.8	173	2.1	0.07	1.1	50.8	25	7	0.3
30	8	0.4	1.9	2.3		2.1	207	2.4	0.09	1.5	48.2	30	8	0.4

## 10' FIXED PATTERN (10' Radius, 15° Trajectory - low angle)

Pressure			Discharge			Precipitation Rate			Model			Precipitation Rate		
PSI	FT. R	GPM	IN/HR	MM/HR	▲	BARS	M	MH	L/min	MM/HR	▲	PSI	FT. R	GPM
15	7	1.2	2.3	2.6		1.1	104	2.1	0.27	4.5	58.4	15	7	1.2
20	8	1.3	2.0	2.3		1.4	138	2.4	0.30	4.9	50.8	20	8	1.3
25	9	1.4	1.7	2.0		1.8	173	2.7	0.32	5.3	43.2	25	9	1.4
30	10	1.6	1.5	1.8		2.1	207	3.1	0.36	6.1	38.1	30	10	1.6
15	7	0.6	2.3	2.6		1.1	104	2.1	0.14	2.3	58.4	15	7	0.6
20	8	0.6	2.0	2.3		1.4	138	2.4	0.14	2.3	50.8	20	8	0.6
25	9	0.7	1.7	2.0		1.8	173	2.7	0.16	2.6	43.2	25	9	0.7
30	10	0.8	1.5	1.8		2.1	207	3.1	0.18	3.0	38.1	30	10	0.8
15	7	0.3	2.3	2.6		1.1	104	2.1	0.06	1.1	58.4	15	7	0.3
20	8	0.3	2.0	2.3		1.4	138	2.4	0.06	1.1	50.8	20	8	0.3
25	9	0.4	1.7	2.0		1.8	173	2.7	0.06	1.1	48.2	25	9	0.4
30	10	0.4	1.5	1.8		2.1	207	3.1	0.09	1.5	38.1	30	10	0.4

## 12' FIXED PATTERN (12' Radius, 30° Trajectory - low gallonage)

Pressure			Discharge			Precipitation Rate			Model			Precipitation Rate		
PSI	FT. R	GPM	IN/HR	MM/HR	▲	BARS	M	MH	L/min	MM/HR	▲	PSI	FT. R	GPM
15	9	1.8	2.1	2.5		1.1	104	2.7	0.40	6.8	53.3	15	9	1.8
20	10	2.1	2.0	2.3		1.4	138	3.1	0.48	7.9	50.8	20	10	2.1
25	11	2.4	1.9	2.2		1.8	173	3.4	0.54	9.1	48.2	25	11	2.4
30	12	2.6	1.7	2.0		2.1	207	3.7	0.59	9.8	43.2	30	12	2.6
15	9	1.4	2.1	2.5		1.1	104	2.7	0.32	5.3	53.3	15	9	1.4
20	10	1.6	2.0	2.3		1.4	138	3.1	0.36	6.1	50.8	20	10	1.6
25	11	1.8	1.9	2.2		1.8	173	3.4	0.41	6.8	48.2	25	11	1.8
30	12	2.0	1.7	2.0		2.1	207	3.7	0.45	7.6	43.2	30	12	2.0
15	9	1.2	2.1	2.5		1.1	104	2.7	0.27	5.5	53.3	15	9	1.2
20	10	1.4	2.0	2.3		1.4	138	3.1	0.32	5.3	50.8	20	10	1.4
25	11	1.6	1.9	2.2		1.8	173	3.4	0.36	6.1	48.2	25	11	1.6
30	12	1.7	1.7	2.0		2.1	207	3.7	0.39	6.4	43.2	30	12	1.7
15	9	0.9	2.1	2.5		1.1	104	2.7	0.20	3.4	53.3	15	9	0.9
20	10	1.1	2.0	2.3		1.4	138	3.1	0.25	4.2	50.8	20	10	1.1
25	11	1.2	1.9	2.2		1.8	173	3.4	0.26	5.1	48.2	25	11	1.2
30	12	1.3	1.7	2.0		2.1	207	3.7	0.30	4.9	43.2	30	12	1.3
15	9	0.6	2.1	2.5		1.1	104	2.7	0.14	2.3	53.3	15	9	0.6
20	10	0.7	2.0	2.3		1.4	138	3.1	0.16	2.6	50.8	20	10	0.7
25	11	0.8	1.9	2.2		1.8	173	3.4	0.18	3.0	48.2	25	11	0.8
30	12	0.9	1.7	2.0		2.1	207	3.7	0.20	3.1	43.2	30	12	0.9
15	9	0.5	2.1	2.5		1.1	104	2.7	0.11	1.9	53.3	15	9	0.5
20	10	0.6	2.0	2.3		1.4	138	3.1	0.11	1.9	50.8	20	10	0.6
25	11	0.6	1.9	2.2		1.8	173	3.4	0.14	2.3	48.2	25	11	0.6
30	12	0.7	1.7	2.0		2.1	207	3.7	0.16	2.6	43.2	30	12	0.7

## 15' FIXED PATTERN (15' Radius, 30° Trajectory - standard)

Pressure			Discharge			Precipitation Rate			Model			Precipitation Rate		
PSI	FT. R	GPM	IN/HR	MM/HR	▲	BARS	M	MH	L/min	MM/HR	▲	PSI	FT. R	GPM
15	11	2.5	2.1	2.4		1.1	104	3.4	0.59	9.8	53.3	15	11	2.5
20	12	3.0	2.0	2.3		1.4	138	3.7	0.68	11.4	50.8	20	12	3.0
25	14	3.3	1.8	2.1		1.8	173	4.3	0.75	12.5	40.6	25	14	3.3
30	15	3.7	1.6	1.9		2.1	207	4.6	0.84	14.0	40.6	30	15	3.7
15	11	2.0	2.1	2.4		1.1	104	3.4	0.45	7.6	53.3	15	11	2.0
20	12	2.3	2.0	2.3		1.4	138	3.7	0.52	8.7	50.8	20	12	2.3
25	14	2.5	1.9	2.1		1.8	173	4.3	0.57	9.5	40.6	25	14	2.5
30	15	2.8	1.8	2.1		2.1	207	4.6	0.64	10.6	40.6	30	15	2.8
15	11	1.7	2.1	2.4		1.1	104	3.4	0.39	6.4	53.3	15	11	1.7
20	12	2.0	2.0	2.3		1.4	138	3.7	0.45	7.6	50.8	20	12	2.0
25	14	2.2	1.8	2.1		1.8	173	4.3	0.50	8.3	40.6	25	14	2.2
30	15	2.5	1.6	1.8		2.1	207	4.6	0.57	9.5	40.6	30	15	2.5
15	11	1.3	2.1	2.4		1.1	104	3.4	0.30	4.9	53.3	15	11	1.3
20	12	1.5	2.0	2.3		1.4	138	3.7	0.34	5.7	50.8	20	12	1.5
25	14	1.7	1.8	2.1		1.8	173	4.3	0.39	6.4	40.6	25	14	1.7
30	15	1.9	1.6	1.8		2.1	207	4.6	0.43	7.2	40.6	30	15	1.9
15	11	0.9	2.1	2.4		1.1	104	3.4	0.20	3.4	53.3	15	11	0.9
20	12	1.0	2.0	2.3		1.4	138	3.7	0.22	3.8	50.8	20	12	1.0
25	14	1.1	1.8	2.1		1.8	173	4.3	0.25	4.2	40.6	25	14	1.1
30	15	1.2	1.6	1.8		2.1	207	4.6	0.27	4.5	40.6	30	15	1.2
15	11	0.7	2.1	2.4		1.1	104	3.4	0.16	2.6	53.3	15	11	0.7
20	12	0.8	2.0	2.3		1.4	138	3.7	0.18	3.0	50.8	20	12	0.8
25	14	0.8	1.9	2.1		1.8	173	4.3	0.18	3.0	48.2	25	14	0.8
30	15	0.9	1.6	1.8		2.1	207	4.6	0.20	3.4	40.6	30	15	0.9

## SPECIAL PATTERN

PSI	FT. R	GPM	IN/HR	MM/HR	▲	BARS	M	MH	L/min	MM/HR	▲	
15	18 X 18	2.6	3.1	3.6		1.1	104	5.5 X 5.5	0.59	9.8	78.7	91.4
20	20 X 20	3.0	2.9	3.3		1.4	138	6.1 X 6.1	0.68	11.4	73.7	83.3
25	22 X 22	3.3	2.6	3.0		1.8	173	6.7 X 6.7	0.75	12.5	68.0	76.2
30	24 X 24	3.7	2.5	2.9		2.1	207	7.3 X 7.3	0.84	14.0	63.5	73.7
15	4 X 13	0.5	1.7	-		1.1	104	1.2 X 4.0	0.11	1.9	43.2	-
20	4 X 14	0.5	1.7	-		1.4	138	1.2 X 4.3	0.11	1.9	43.2	-
25	4 X 14	0.6	1.9	-		1.8	173	1.2 X 4.3	0.11	1.9	48.2	-
30	4 X 15	0.6	1.9	-		2.1	207	1.2 X 4.6	0.14	2.3	48.3	-
15	4 X 26	0.9	1.7	-		1.1	104	1.2 X 7.9	0.20	3.4	43.2	-

The EZ Connect™ 9501 and 9502 series of 3/4", 1", 1-1/2" and 2" valves have built-in unions that make this the most versatile valve available in the market today. One valve body, no fixed inlet or outlet, and threaded or slip configurations giving this valve ultimate flexibility for any job. Nelson's 9000 series of 1" PVC valves are ideal for any residential system. These valves are available in 1" NPT, BSP, slip version and male x barb. Nelson's 7900 series valves incorporate heavy duty corrosion resistant materials for sturdy and dependable years of service. Glass reinforced nylon body and bonnet to prevent leaks and breaks, stainless-steel plunger and spring to prevent seepage and corrosion, a simple valve design that's easy to use.

valves



January 1, 2007

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## 9000 series



**9001 (9003)**  
Manual Internal Bleed 1" globe

**9002**  
Manual Internal Bleed 1" globe slip

**9004**  
Manual Internal Bleed 1" male x barb

**9011 (9013)**  
Manual Internal Bleed 1" globe with flow control

**9012**  
Manual Internal Bleed 1" globe slip with flow control

**9014**  
Manual Internal Bleed 1" male x barb

### Accessories

**7962RW**  
Reclaimed water solenoid

*Note: Versions in parenthesis feature BSP threading*



7962RW

### SPECIFICATIONS

#### Flow range:

Less than 1 to 30 gpm

#### Minimum pressure:

10 psi

#### Maximum pressure:

150 psi

#### Input:

24V AC

#### Inrush current:

0.50 amps or less

#### Holding current:

0.23 amps

#### Threading:

NPT (9001, 9011)

Slip (9002, 9012)

BSP (9003, 9013)

Male x barb (9004, 9014)

#### Size:

4 1/2" L x 3 3/8" W x 5 3/8" H (9001, 9002, 9011, 9012)

5 5/8" L x 3" W x 5" H (9004, 9014)

#### # per box:

20

### FEATURES

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

### 9001, 9002, 9003 & 9004 GLOBE VALVE 9011, 9012, 9013 & 9014 GLOBE VALVE

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

44 9000 series

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**7901 (7916)**

Manual Internal Bleed 1" globe

**7911 (7917)**

Manual Internal Bleed 1" globe with flow control

**7931**

Manual Internal Bleed 1" angle with flow control

**7941**

Manual Internal Bleed 1" angle

**Accessories**

**7962RW**

Reclaimed water solenoid

*Note: Versions in parenthesis feature BSP threading*

**SPECIFICATIONS**

**Flow range:**

Less than 1 to 30 gpm

**Minimum pressure:**

10 psi

**Maximum pressure:**

150 psi

**Input:**

24V AC

**Inrush current:**

0.50 amps or less

**Holding current:**

0.23 amps

**Threading:**

NPT (7901, 7911)

BSP (7916, 7917)

**Size:**

4"L x 2 3/4"W x 5"H (7901, 7911)

3 3/4"L x 2 3/4"W x 5 1/2"H (7931, 7941)

**# per box:**

20

**FEATURES**

- Body and bonnet made of glass reinforced nylon to prevent leaks and breaks
- Simple valve configuration and design; few moving parts
- Solenoid has stainless steel plunger and spring to prevent corrosion
- Manual internal bleed keeps valve box dry
- Bayonet-mounted bonnet with captured diaphragm for quick and easy servicing
- Fabric reinforced diaphragm for increased durability
- Easy-to-use flow control permits manual adjustment of water flow rate (does not apply to models 7901, 7916)
- ACCESSORIES  
7963: 115 volt replacement solenoid (includes conduit connection)
- 5 year warranty on materials and workmanship

**7901 (7916 BSP) & 7911 (7917 BSP) 1" GLOBE VALVE**

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

**7931 & 7941 1" ANGLE VALVE**

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

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January 1, 2007

## EZ Connect™ 9501 series

EZ Connect™ 9501 series  
46



**9501**  
Manual Internal Bleed 1" union globe

**9501FC**  
Manual Internal Bleed  
1" union globe with flow control

**¾" Fittings**  
**9501-075BM**  
**9501-075BR**  
**9501-075NF**  
**9501-075NM**  
**9501-075S**

**1" Fittings**  
**9501-100BF**  
**9501-100BM**  
**9501-100BR**  
**9501-100NF**  
**9501-100NM**  
**9501-100S**



9501-CNRW



7962RW

**Accessories**  
**9501-CNRW**  
Lavender coupling nut

**7962RW**  
Reclaimed water solenoid

Reading model #'s:  
 BF= BSP female fitting;  
 BM= BSP male fitting;  
 BR= Barb fitting;  
 NF= NPT female fitting;  
 NM= NPT male fitting;  
 S= Slip fitting;

### FEATURES

- Body and bonnet made of glass reinforced nylon to prevent leaks and breaks
- Manual internal bleed keeps valve box dry
- Bayonet-mounted bonnet with captured diaphragm for quick and easy servicing
- Fabric reinforced diaphragm for increased durability
- Easy-to-use flow control permits manual adjustment of water flow rate (does not apply to model 9501)

- One-piece fully encapsulated glass filled nylon solenoid with a stainless steel plunger
- Plunger is captured with removable retainer for easy cleaning
- High-grade PVC unions located on the inlet and outlet allow maximum versatility of pipe size (¾" and/or 1") and numerous combinations. Installation and removal of the valve is a breeze!

### SPECIFICATIONS

#### Flow range:

Less than 1 to 30 gpm

#### Minimum pressure:

10 psi

#### Maximum pressure:

150 psi

#### Input:

24V AC

#### Inrush current:

0.50 amps or less

#### Holding current:

0.23 amps

#### Size:

4½" L x 2¼" W x 5¼" H

#### # per box:

20 (valves)

40 (fittings)

20 (lavender coupling nuts)

- Directly compatible with SoloRain™ series of battery-operated actuators
- 5 year warranty on materials and workmanship on the valve. 2 year warranty on materials and workmanship on the solenoid

#### 9501-075 SERIES (¾" FITTINGS)

Flow	Pressure Loss	Flow	Pressure Loss	Flow	Pressure Loss
GPM	PSI	L/min	kPa	m³/hr	BAR
1	2.5	3.8	17	0.23	0.17
5	2.7	18.9	18.6	1.14	0.18
10	3.7	37.9	25.5	2.27	0.25
15	4.5	56.8	31	3.41	0.30
20	5.0	75.7	34.5	4.54	0.34

#### 9501-100 SERIES (1" FITTINGS)

Flow	Pressure Loss	Flow	Pressure Loss	Flow	Pressure Loss
GPM	PSI	L/min	kPa	m³/hr	BAR
1	3.0	3.8	20.7	0.23	0.20
5	2.7	18.9	18.6	1.14	0.18
10	2.5	37.9	17.3	2.27	0.17
15	2.5	56.8	17.3	3.41	0.17
20	3.5	75.7	24.0	4.54	0.24
25	4.5	94.6	31.0	5.68	0.31
30	6.5	113.6	44.8	6.81	0.44

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**SCHUMACHER** Your Irrigation Superstore  
 Email: irrigate@schumacherirrigation.com  
 IRRIGATION, INC. www.schumacherirrigation.com

**Toll Free: 800-246-3685**  
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 Fax: 402-246-2072



**9515NC\*, 9515BC\***  
1½" Globe or Angle Valve

**9520NC\*, 9520BC\***  
2" Globe or Angle Valve

\*NC = NPT Conventional  
\*BC = BSP Conventional

**Accessories**

**7962RW**  
Reclaimed water solenoid



7962RW

**SPECIFICATIONS**

- Flow range:**  
15-150 gpm (9515)  
15-200 gpm (9520)
- Minimum pressure:**  
15 psi
- Maximum pressure:**  
200 psi
- Input:**  
24V AC
- Inrush current:**  
0.50 amps
- Holding current:**  
0.23 amps
- Size:**  
6¾"L x 5½"W x 8"H (9515 with plug)  
6¾"L x 5½"W x 8½"H (9520)
- # per box:**  
4

**FEATURES**

- Manual internal bleed is easy to operate – just twist the solenoid
- Flow Control, standard on all valves, allows adjustment of water flow when needed with a removable knob for additional protection against vandalism
- One-piece fully encapsulated glass-filled nylon solenoid with a stainless steel plunger. Plunger is captured with removable retainer for easy cleaning
- Manual bleed by rotating solenoid approximately ¾ of a turn counter clockwise
- Eight stainless steel ¼" nuts grip into bonnet for extreme and fluctuating climatic conditions
- One-piece fabric reinforced diaphragm for increased durability
- 200 psi rated valve for heavy-duty applications
- Glass-filled nylon body with eight molded in brass studs, a stainless steel metering rod and high-grade PVC bonnet
- Directly compatible with SoloRain™ series of battery-operated actuators
- 5 year warranty on materials and workmanship on the valve. 2 year warranty on materials and workmanship on the solenoid

**PRESSURE LOSS**

Flow (GPM)	9515NC 1½" Globe	9515NC 1½" Angle	9520NC 2" Globe	9520NC 2" Angle	Flow (l/min)	9515BC 1½" Globe	9515BC 1½" Angle	9520BC 2" Globe	9520BC 2" Angle
15	3.0	2.8	-	-	56.7	20.7	19.3	-	-
20	3.0	2.8	-	-	75.7	20.7	19.3	-	-
30	3.5	3.0	-	-	113.5	24.2	20.7	-	-
40	3.7	3.2	-	-	151.4	25.5	22.0	-	-
50	3.9	3.4	2.9	1.9	189.3	26.9	23.5	20.1	13.1
60	4.0	3.7	3.0	2.3	227.1	27.6	25.5	20.7	15.8
80	5.0	4.1	3.5	2.5	302.8	34.5	28.3	24.2	17.2
100	6.0	4.5	4.2	3.1	378.5	41.4	31.1	28.9	21.3
120	8.0	6.0	6.5	3.8	454.2	55.2	41.4	44.9	26.2
140	10.0	7.0	8.2	4.9	529.9	69.0	48.3	56.6	33.8
160	-	-	11.0	5.5	605.6	-	-	75.9	37.9
180	-	-	11.5	6.8	681.3	-	-	79.3	46.9
200	-	-	16.5	8.2	757.0	-	-	113.8	56.5

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## EZ Connect™ 9502 series



**1 ½" Fittings**  
**9502-150B**  
**9502-150N**  
**9502-150S**

**Valve bodies**  
**9502**  
 Heavy duty union valve

**2" Fittings**  
**9502-200B**  
**9502-200N**  
**9502-200S**

**Accessories**  
**9502-150IN**  
 1 ½" isolation valve

**9502-200IN**  
 2" isolation valve

**9502-CNRW**  
 Lavender Coupling Nut

**7962RW**  
 Reclaimed water solenoid

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

### SPECIFICATIONS

**Flow range:**  
 15-200 gpm

**Minimum pressure:**  
 15 psi

**Maximum pressure:**  
 200 psi

**Input:**  
 24V AC

**Inrush current:**  
 0.50 amps or less

**Holding current:**  
 0.23 amps

**Size:**  
 Bodies with fittings installed:  
 11 ½" L x 5 ½" W x 8" H (globe)

**Bodies:**  
 7 ¾" L x 5 ½" W x 8" H (globe)

**# per box:**  
 4 (valve bodies)  
 16 (fittings)  
 4 (isolation valves)  
 8 (lavender coupling nuts)

### FEATURES

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

### PRESSURE LOSS

Flow (GPM)	9500 1 ½" Globe (PSI)	9500 2" Globe (PSI)	Flow (l/min)	9500 1 ½" Globe (Kgal)	9500 2" Globe (Kgal)	Flow (m³/h)	9500 1 ½" Globe (BARs)	9500 2" Globe (BARs)
20	3.0	—	75.7	20.7	—	4.54	.20	—
30	3.5	—	113.5	24.2	—	6.81	.24	—
40	3.7	—	151.4	25.5	—	9.08	.25	—
50	3.9	2.9	189.3	26.9	20.1	11.35	.27	.20
60	4.0	3.0	227.1	27.6	20.7	13.62	.28	.21
80	5.0	3.5	302.8	34.5	24.2	18.16	.34	.24
100	6.0	4.2	378.5	41.4	28.9	22.70	.41	.29
120	8.0	6.5	454.2	55.2	44.9	27.40	.55	.45
140	10.0	8.2	529.9	69.0	56.6	31.78	.69	.56
160	—	11.0	605.6	—	75.9	36.32	—	.75
180	—	11.5	681.3	—	79.3	40.86	—	.79
200	—	16.5	757.0	—	113.8	45.40	—	1.14

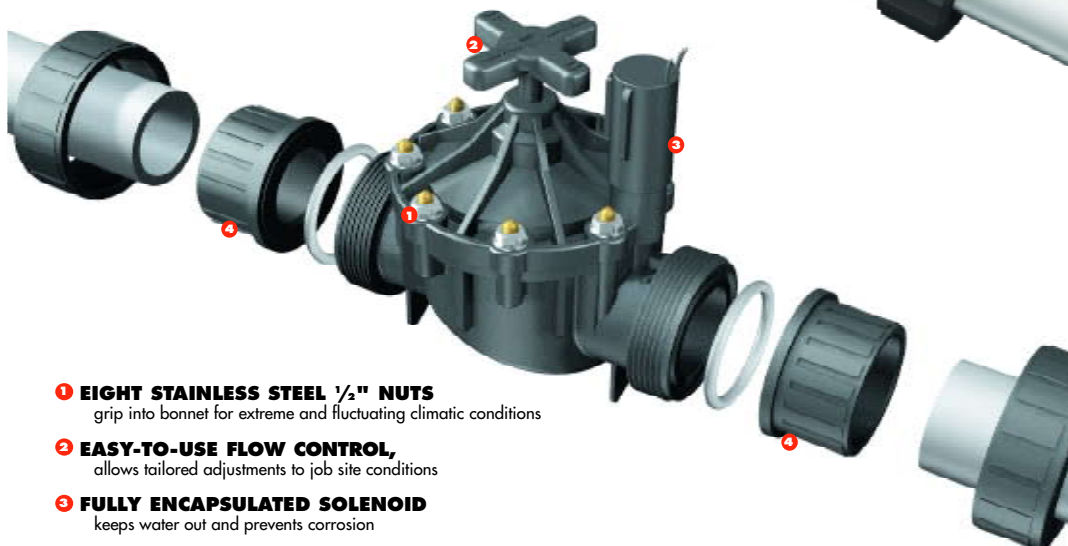
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EZ Connect™ 9502 series 48

January 1, 2007

## 9501 and 9502 series features

- 1 EASY-TO-USE FLOW CONTROL,**  
allows tailored adjustments to job site conditions
- 2 FULLY ENCAPSULATED SOLENOID**  
keeps water out and prevents corrosion
- 3 HIGH-GRADE PVC FITTINGS**  
give maximum versatility of the pipe size (¾" and 1") in slip and/or threaded configurations



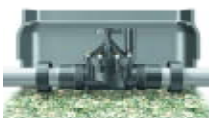
- 1 EIGHT STAINLESS STEEL ½" NUTS**  
grip into bonnet for extreme and fluctuating climatic conditions
- 2 EASY-TO-USE FLOW CONTROL,**  
allows tailored adjustments to job site conditions
- 3 FULLY ENCAPSULATED SOLENOID**  
keeps water out and prevents corrosion
- 4 HIGH-GRADE PVC FITTINGS**  
give maximum versatility of the pipe size (1½" and 2") in slip and/or threaded configurations



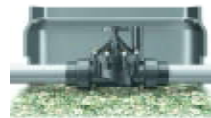
Coupling nuts on the pipe



Fittings for the inlet/outlet of the valve are installed  
**Note:** Slip fittings eliminate 2 threaded fittings per valve



Valve is in place ready to be connected



Coupling nuts are threaded onto the inlet and outlet of the valve

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9501 and 9502 series features 49

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pro 7600 series



**7640**  
Quick Coupling Key

**7641**  
Quick Coupling Key

**7642**  
Quick Coupling Valve

**7643**  
Quick Coupling Valve with locking cover

**7644**  
Quick Coupling Valve with lavender cap

**7645**  
Quick Coupling Valve with non-potable locking cover

**SPECIFICATIONS**

Nelson quick coupling valves and keys use Acme® threads for slow and steady flow control instead of immediate on/off. All models feature rubber cover. Optional locking cover available (7643). Optional lavender rubber cover (7644) identifies reclaimed water site – molded in “RECLAIMED WATER - DO NOT DRINK”: in English and Spanish.



Acme® threads provide convenient flow control

**QUICK COUPLING KEYS**

Model	For Valve Models	Thread Size		Height
		MALE	FEMALE	
7640	7642, 7643, 7644, 7645	3/4"	1/2"	5 1/4"
7641	7642, 7643, 7644, 7645	1"	3/4"	5 1/4"

**QUICK COUPLING VALVES**

Quick Coupler Model	Rubber Cover	Locking Cover	Warning Cover	Max Capacity GPM	Bottom Pipe Thread	Overall Height
7642	•			20	1"	3 3/4"
7643	•	•		20	1"	3 3/4"
7644	•		•	20	1"	3 3/4"
7645	•	•	•	20	1"	3 3/4"



**Series Swivel ells**

- 8810 - 3/4" FPT x 3/4" GHT
- 8811 - 1" FPT x 3/4" GHT
- 8812 - 1" FPT x 1" GHT

50 pro 7600 series

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The New 8400 Series WaterTrains are the most versatile, transportable watering devices in the market today. No Babysitting Necessary! The WaterTrains are perfect for schools and businesses that have multiple fields, complexes or facilities to water and maintain. The WaterTrain can be easily moved from site to site. All WaterTrains hook up easily to small tractors, mowers or small utility vehicles for transporting; most can be moved short distances by hand. No dragging around pipes or hoses anymore. Less Time! Less Labor! Less Cost!

**traveling sprinklers**



January 1, 2007

## traveling sprinklers



### 8402

RainTrain™ 2

### 8403

WaterTrain Jr with K1 sprinkler

### 8406

WaterTrain with SR 75 sprinkler and booster pump

### 8408

50' x 1½" Male NPT Supply Hose

## SPECIFICATIONS

### Size:

- 22"H x 33"W x 22"D (8402)
- 43"H x 46"W x 38"D (8403)
- 57"H x 81"W x 48"D (8406)

## FEATURES

### 8402 specific:

- Part and full-circle sprinkler
- Automatic shut-off once sprinkler reaches the spike
- Robust turbine drive!
- Speed control allows you to easily adjust water application rates
- On/Off valve allows you to shut the unit off while keeping hose pressurized
- Economical irrigation solution for athletic fields, parks, cemeteries and other large area projects

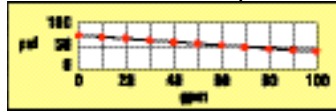
### 8403 specific:

- Part or full-circle sprinkler
- Self winding hose with guide to ensure proper alignment of hose
- Speed control allows you to easily adjust water application rates
- Irrigates on a straight line or radius – versatile for all sports complexes
- Stabilizer feet anchor machine during operation
- Supply hose included 1" x 10 ft. with male 1" NPT (BSP adapter supplied)
- Compact design makes it easy to transport from one area to another

### 8406 specific:

- Part or full-circle sprinkler with interchangeable nozzles
- Automatic shutdown for motor and optional shutdown for sprinkler
- Self winding hose with guide to ensure proper alignment of hose
- Speed control allows you to easily adjust water application rates
- Irrigates on a straight line or radius – covers a football field in one pass!
- Portable – easily move from one site to the next!
- Three wheel chassis with steerable front wheel and tow bar (not designed for highway towing)
- Supply hose included 1½" x 15 ft. 1½" male NPT (BSP adapter supplied)
- Ideal applications: cemeteries; golf courses; commercial sites; sports complexes – baseball, soccer, football & rugby fields; arenas; cash crop
- 5.5 HP Honda booster pump
- Mounting brackets included
- Fuel tank and all necessary tubing included

5.5 HP Honda Booster Pump



Model	Sprinkler	Cable/Hose Length (ft)	Flow gpm	Inlet (PSI)	Irrigated Width (ft)	Irrigated Length (ft)
8402	ZE30W	400	8-15	44-70	70-85	400
8403	Sime K1	280	8-22	45-76	82-106	321-333
8406	SR75	350	25-55	53-105	106-146	403-423

\* For detailed specifications by model, refer to cut sheets

Model / Sprinkler	Flow GPM	Inlet PSI	Sprinkler		Irrigated Area			Depth of Application In (Hours To Complete Run)	
			Pressure PSI	Wetted Dia Ft	Width Ft	Length (Max) Ft	Area Acres	Maximum	Minimum
8403 280'tube Semi K1	9	45	40	102	82	321	0.6	0.5(14)	0.1(1.8)
	12	38	50	120	96	326	0.6	0.6(14)	0.1(1.8)
	14	61	50	118	94	327	0.7	0.7(14)	0.1(1.8)
	18	58	40	123	98	329	0.7	0.9(14)	0.1(1.8)
8406 350'tube Nelson SR75	22	76	50	132	106	333	0.8	1.0(14)	0.1(1.8)
	27	55	40	147	118	409	1	0.5(18)	0.1(4)
	35	64	40	157	126	413	1.2	0.6(18)	0.1(4)
	48	93	50	182	146	423	1.4	0.8(18)	0.2(4)
52	89	40	177	142	421	1.4	0.9(18)	0.2(4)	
	59	112	50	191	153	426	1.5	1.0(18)	0.2(4)

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52 traveling sprinklers

January 1, 2007

## Nelson Big Gun® Sprinklers



### Big Guns 10229-724

SR75 Heavy Duty  
24deg 1 1/2" FNPT

### 8211-106

SR100 24deg 2" FNPT

### QC Valve Keys 8655-001

Valve Key 2" FNPT

### QC Valve 8654

QC Valve 2" FNPT

### FEATURES

- The SR (Slow Reverse) Big Guns greatly reduce the vibration and reverses in the same slow steady speed as it drives forward.
- New taper bore nozzle increases efficiency and reliability over a wider range of nozzle sizes and pressures.

- Super smooth opening and closing to prevent water hammer and surge. No stream trail-off on startup or shutdown to cause soil erosion and seeding washout.
- Extremely low friction loss (less than 3 psi at 160 gpm). Valve is normally closed, fail-safe.

- Equipped with a special guard making it impossible to turn valve on until the key is in the correct position.
- Prevents ponding or runoff due to pipe draining through the low valves when system is shut down.

#### SR75 BIG GUN® SPRINKLER — Taper Bore Nozzle — 24° trajectory

Noz. Diam. 0.45" 0.5" 0.55" 0.6" 0.65"

PSI	GPM	DIA FT.	GPM	DIA FT.	GPM	DIA FT.	GPM	DIA FT.	GPM	DIA FT.
25			42	1.46	50	1.55	59	1.61		
30			37	1.58	45	1.68	55	1.65	64	1.72
35	32	1.54	40	1.64	49	1.72	59	1.78	69	1.91
40	35	1.60	43	1.71	52	1.80	63	1.90	74	1.98
45	37	1.67	46	1.80	56	1.89	67	1.98	79	2.06
50	39	1.74	48	1.86	59	1.95	70	2.03	83	2.12
55	41	1.79	50	1.93	62	2.03	74	2.13	87	2.21
60	42	1.84	53	1.98	64	2.08	77	2.20	91	2.28
65	44	1.89	55	2.05	67	2.16	80	2.27	95	2.37
70	45	1.94	57	2.10	69	2.21	83	2.32	98	2.43
75	47	2.01	59	2.17	72	2.28	86	2.39	101	2.50
80	49	2.07	61	2.22	74	2.34	89	2.44	105	2.56

Diameter (DIA) in feet and flowrate (GPM) are based on CIT (center for Irrigation Technology) testing and some comparisons (dated 10/9/02).

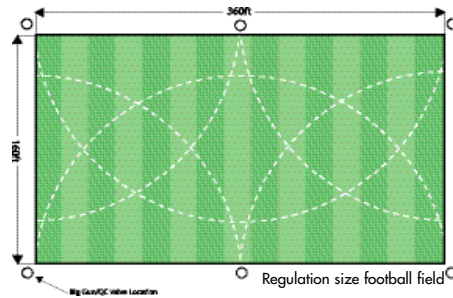
Pressure/nozzle combinations OUTSIDE of the shaded area produce a more desirable stream.

#### SR100 BIG GUN® SPRINKLER — Taper Bore Nozzle — 24° trajectory

Noz. Diam. 0.75" 0.75" 0.80" 0.85" 0.90" 1.0"

PSI	GPM	DIA FT.	GPM	DIA FT.	GPM	DIA FT.	GPM	DIA FT.	GPM	DIA FT.
40	91	2.30	103	2.40	118	2.50	134	2.58	152	2.62
50	100	2.45	115	2.56	130	2.65	150	2.73	165	2.80
60	110	2.60	126	2.70	143	2.80	164	2.88	182	2.95
70	120	2.75	136	2.83	155	2.95	177	3.02	197	3.10
80	128	2.85	146	2.95	165	3.05	189	3.14	210	3.25
90	135	2.95	155	3.06	175	3.15	201	3.26	223	3.35
100	143	3.05	163	3.16	185	3.25	212	3.36	235	3.45
110	150	3.15	171	3.24	195	3.35	222	3.44	247	3.55

\*Performance data has been obtained under ideal test conditions and may be adversely affected by wind, poor hydraulic entrance conditions or other factors. Nelson Irrigation Corporation makes no representation regarding droplet condition, uniformity, or application rate.



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Nelson Big Gun® Sprinklers 53

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Nelson offers a variety of products designed specifically for unique applications. Among these products, you can find impact sprinklers and the low volume line of irrigation products. In addition, Nelson's Lawn and Garden hose end line have product offerings that include electronic water timers, pistol nozzles, hose repair, snap-connects and many more. For more information on these products, refer to the Lawn and Garden products catalog (999-02001)



other products

January 1, 2007

## 6700 pro impact



**6700**  
**Pro Impact**  
**6701**  
Lavender Cover

### FEATURES

- Includes five easily interchangeable, color-coded nozzles and 2 low-angle nozzles.
- No tool is required to change nozzles.
- Heavy-duty plastic case with sturdy, reinforced ribbed design.
- Double-weighted arm for slower rotation and increased distance of throw.
- Powerful reverse action.
- Adjustable arm spring for low-pressure and low-gallage operation.
- Full-circle or adjustable arc 20° to 340°.
- Distance controller diffuser pin.
- Multi-function, pressure-activated wiper seal.
- Inlet filter screen.
- Combination 1/2" or 3/4" bottom inlet
- Side inlet 1/2"
- Serviceable through the top of the case.

### FEATURES

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

- 1/2" male threads
- Non-clog nozzle and straight-through flow design
- Sealed bearing keeps dirt and debris out
- Anti-backsplash arm keeps water off buildings
- Adjust pattern and spray with diffuser pin and exclusive Click-Set® trip collars
- Adjust radius with baffle on 1370's
- Available in three nozzle sizes for proportionately accurate designs
- Use 1370's for riser installations
- Metal diffuser pin maintains set spray pattern adjustment
- 5 year warranty on materials and workmanship

### SPECIFICATIONS for 6700 only

#### Operating range:

25-60 psi

#### Optimum working pressure:

40 psi

#### Maximum working pressure:

60 psi

#### Part-circle range:

20° - 340°

#### Pop-up height:

3"

#### Body height:

9 1/4"

#### Bottom inlet size:

1/2" and 3/4"

#### Side inlet size:

1/2"

#### Top diameter:

5"

#### # per box:

20

Refer to page 53 for nozzle performance



1370

### 1370

Adjustable Beta head  
with 1/2" bearing

### 1300 SERIES SINGLE NOZZLE PERFORMANCE

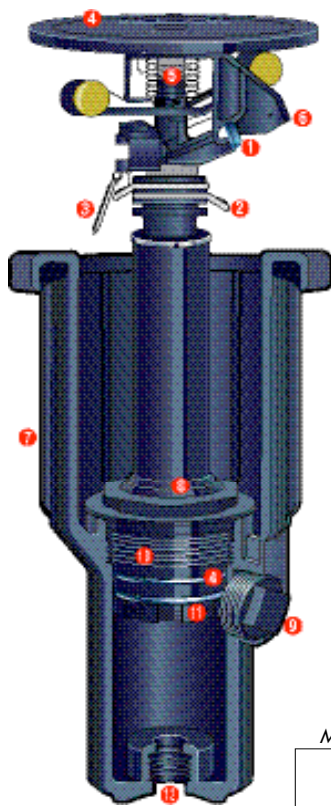
Pressure	Radius	Discharge	Model	Pressure		Radius		Discharge	
				BAR	kPa	m	L/min	m <sup>3</sup> /hr	
30	36	1.9	1322 & 1372 GREEN	2.1	207	11.0	7.2	0.43	
40	37	2.1		2.8	276	11.3	8.0	0.48	
50	38	2.4		3.5	345	11.6	9.1	0.54	
60	38	2.7		4.2	414	11.6	10.2	0.61	
30	38	2.9	1323 & 1373 RED	2.1	207	11.6	11.0	0.66	
40	40	3.3		2.8	276	12.2	12.5	0.75	
50	41	3.7		3.5	345	12.5	14.0	0.84	
60	41	4.0		4.2	414	12.5	15.1	0.91	
30	40	3.6	1324 & 1374 BLACK	2.1	207	12.2	13.6	0.82	
40	42	4.3		2.8	276	12.8	16.3	0.98	
50	43	4.8		3.5	345	13.1	18.2	1.09	
60	43	5.2		4.2	414	13.1	19.7	1.18	

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other products 55

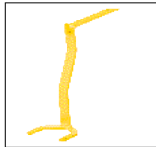
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## 6700 features



- 1 7 Easily Interchangeable Nozzles
- 2 Stainless Steel Adjustment Collars
- 3 Adjustable Part of Full Circle Trip Lever
- 4 Heavy Duty Removable Cover
- 5 Adjustable Spring Arm
- 6 Diffuser Screw
- 7 Heavy Duty Case
- 8 Wiper Seal
- 9 Side Inlet 3/4"
- 10 Heavy Duty Stainless Steel Spring
- 11 Filter Screen
- 12 Bottom Inlet 1/2" and 3/4"

Model 8601



Performance Data will be completed by December 06. Please see cutsheet.

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6700 features  
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**5204**  
Mechanical Timer

**5920 (5920E)**  
Friendly Timer

**5945 (5945E)**  
Deluxe Timer

**SPECIFICATIONS**

**Size:**

- 4 1/8" H x 4 3/8" W x 2 1/2" D (5204)
- 5 1/2" H x 4 3/8" W x 2 1/2" D (5920, 5920E)
- 5 1/4" H x 5 1/2" W x 2 3/4" D (5945)

**Batteries:**

Two AA alkaline batteries  
(5920, 5920E, 5945)

**CE Listed:**

FCC Part 15 Class B compliant



**FEATURES**

**5204 specific:**

- Designed for convenience, it automatically shuts off water – never forget to turn off your sprinkler again
- Time based shut-off is ideal for communities with water restrictions
- Mechanically operated, no electronics or batteries required
- Can be set for up to 3 hours of watering
- Extra large, easy to grip soft rubber swivel hose coupling connection
- For non-commercial use only

**5920 (5920E) specific:**

- Rotate dial to select watering time – no programming required
- Nine pre-set watering selections plus ON/OFF
- ON - 3 hour runtime default that can be adjusted in 15 minute increments
- Digital LCD time display
- Reliable diaphragm design replaces ball valve and provides for a longer battery life
- Extra large, easy to grip, soft rubber swivel coupling and dial with rubber grips
- For non-commercial use only

**5945 (5945E) specific:**

- Advanced user options; up to 8 programmed watering cycles including MIST cycle
- MIST cycle features 20 seconds ON, 5 minutes OFF
- Easy, on-screen programming
- Digital LCD time and program display
- Two outlets: 1 programmed with manual option; 1 convenience
- Doesn't interfere with programming, both outlets may be used simultaneously
- Convenience outlet provides flexibility to use your faucet without interrupting timer settings
- Reliable diaphragm design replaces ball valve and provides for longer battery life
- For non-commercial use only



**NELSON TURF**  
Quality. Service. Guaranteed!  
[LRNelson.com](http://LRNelson.com)

**1973, 8819, fittings, flex pipe, low volume products**



- 1973**  
Whiz Head® rotary sprinkler
- 4000**  
100' ½" flex pipe
- 4010BR**  
½" male NPT x ½" barb elbow
- 4011BR**  
½" male NPT x ½" barb straight
- 4020BR**  
¾" male NPT x ½" barb elbow
- 4021BR**  
¾" male NPT x ½" barb straight
- 8819**  
Brass automatic drain valve

**FEATURES**

**1973 specific:**

- Ideal for riser installations in planting areas
- ½" female threaded inlet
- Made of high-impact corrosion resistant plastic
- Stainless steel bearing and large orifice nozzle
- 5 year warranty on materials and workmanship

**4000 Flex Pipe specific:**

- Almost impossible to kink with its new enhanced kink resistant material
- More flexible and can bend up to 360° without kinking do to its Linear Low Density Polyethylene Resin
- The rough surface allows for a better grip and results in faster installation
- Easily unwinds from a specially designed compact carrying case
- 1 ft. marking on the Flex Pipe allows for precise measuring and cutting
- Inside diameter is .49" (12.45 mm)
- Wall thickness is .095" (2.41 mm)
- Coil size is 100' (30.48 m)
- Maximum working pressure is 120 psi (8.27 bars) and 110°F (43°C)

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

**8819 specific:**

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

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January 1, 2007

## friction loss characteristics

### PVC SCHEDULE 40 IPS PLASTIC PIPE

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

Velocity of flow values are computed from the general equation:  
 $V = 408 \frac{Q}{C}$

Friction pressure loss values are computed from the equation:  
 $f_p = 0.2083 \left( \frac{100}{C} \right)^{1.85} \frac{L Q^{1.85}}{D^{4.97}}$

SIZE	1/2"		3/4"		1"		1 1/4"		1 1/2"		2"		2 1/2"		3"		4"		5"						
	OD	ID	OD	ID	OD	ID	OD	ID	OD	ID	OD	ID	OD	ID	OD	ID	OD	ID	OD	ID					
WALL THK	0.109	0.109	0.113	0.113	0.135	0.135	0.140	0.140	0.160	0.160	0.207	0.207	0.246	0.246	0.285	0.285	0.368	0.368	0.405	0.405	0.505	0.505			
Flow G.P.M.	1.06	0.43	0.80	0.11	0.37	0.03	0.21	0.01	0.15	0.00	0.19	0.05	0.20	0.00	0.21	0.00	0.21	0.00	0.21	0.00	0.21	0.00	0.21	0.00	
Velocity F.P.S.	2.11	1.56	1.20	0.30	0.74	0.12	0.42	0.03	0.31	0.02	0.38	0.08	0.42	0.08	0.43	0.08	0.43	0.08	0.43	0.08	0.43	0.08	0.43	0.08	
P.S.I. Loss	3.16	3.28	1.80	0.84	1.11	0.26	0.64	0.07	0.47	0.03	0.28	0.01	0.20	0.00	0.20	0.00	0.20	0.00	0.20	0.00	0.20	0.00	0.20	0.00	
Velocity F.P.S.	4.22	5.90	2.40	1.42	1.48	0.44	0.85	0.12	0.82	0.06	0.35	0.02	0.25	0.01	0.25	0.01	0.25	0.01	0.25	0.01	0.25	0.01	0.25	0.01	
P.S.I. Loss	5.27	8.46	3.00	2.15	1.85	0.66	1.07	0.18	0.78	0.08	0.47	0.02	0.33	0.01	0.33	0.01	0.33	0.01	0.33	0.01	0.33	0.01	0.33	0.01	
Velocity F.P.S.	6.33	11.86	3.60	3.02	2.22	0.83	1.28	0.25	0.94	0.12	0.57	0.03	0.40	0.01	0.28	0.01	0.28	0.01	0.28	0.01	0.28	0.01	0.28	0.01	
P.S.I. Loss	7.38	15.77	4.20	4.01	2.58	1.24	1.49	0.33	1.10	0.15	0.88	0.05	0.46	0.02	0.30	0.01	0.30	0.01	0.30	0.01	0.30	0.01	0.30	0.01	
Velocity F.P.S.	8.44	20.20	4.80	5.14	2.80	1.50	1.71	0.42	1.25	0.20	0.78	0.05	0.53	0.02	0.34	0.01	0.34	0.01	0.34	0.01	0.34	0.01	0.34	0.01	
P.S.I. Loss	9.49	25.12	5.40	5.39	3.33	1.87	1.92	0.52	1.41	0.25	0.85	0.07	0.60	0.03	0.38	0.01	0.38	0.01	0.38	0.01	0.38	0.01	0.38	0.01	
Velocity F.P.S.	10.55	30.54	6.00	7.77	3.70	2.40	2.14	0.63	1.57	0.30	0.95	0.09	0.64	0.04	0.43	0.01	0.43	0.01	0.43	0.01	0.43	0.01	0.43	0.01	
Velocity F.P.S.	11.60	38.43	6.60	9.27	4.37	2.86	2.35	0.75	1.73	0.36	1.05	0.11	0.73	0.04	0.47	0.02	0.47	0.02	0.47	0.02	0.47	0.02	0.47	0.02	
P.S.I. Loss	12.66	42.80	7.21	10.29	4.44	3.36	2.57	0.89	1.88	0.42	1.14	0.12	0.80	0.05	0.52	0.02	0.52	0.02	0.52	0.02	0.52	0.02	0.52	0.02	
Velocity F.P.S.	14.78	58.94	8.41	14.48	5.19	4.47	2.99	1.18	2.20	0.58	1.33	0.17	0.83	0.07	0.50	0.02	0.50	0.02	0.50	0.02	0.50	0.02	0.50	0.02	
P.S.I. Loss	16.87	72.92	9.31	18.56	5.93	5.73	3.42	1.51	2.51	0.71	1.52	0.21	1.07	0.09	0.53	0.03	0.53	0.03	0.53	0.03	0.53	0.03	0.53	0.03	
Velocity F.P.S.	18.96	90.69	10.31	23.07	6.87	7.13	3.85	1.88	2.83	0.89	1.71	0.25	1.20	0.11	0.78	0.04	0.78	0.04	0.78	0.04	0.78	0.04	0.78	0.04	
Velocity F.P.S.	21.09	110.23	12.01	28.04	7.41	8.66	4.28	2.28	3.14	1.06	1.90	0.32	1.33	0.13	0.86	0.05	0.86	0.05	0.86	0.05	0.86	0.05	0.86	0.05	
P.S.I. Loss	22.24	13.21	33.46	8.15	10.33	4.71	2.72	3.48	1.29	2.10	0.38	1.47	0.16	0.85	0.06	0.85	0.06	0.85	0.06	0.85	0.06	0.85	0.06	0.85	0.06
Velocity F.P.S.	24.42	30.30	8.89	12.14	5.14	3.20	3.77	1.51	2.29	0.45	1.80	0.19	1.04	0.07	0.80	0.02	0.80	0.02	0.80	0.02	0.80	0.02	0.80	0.02	
P.S.I. Loss	26.38	45.58	9.84	14.08	5.57	3.17	4.09	1.75	2.48	0.52	1.74	0.22	1.12	0.08	0.85	0.02	0.85	0.02	0.85	0.02	0.85	0.02	0.85	0.02	
Velocity F.P.S.	28.28	16.82	32.28	10.38	16.15	5.99	4.25	4.40	2.91	2.87	0.60	1.87	0.25	1.21	0.09	0.90	0.03	0.90	0.03	0.90	0.03	0.90	0.03	0.90	0.03
Velocity F.P.S.	30.15	18.22	34.41	11.12	16.36	6.42	4.83	4.72	2.28	2.88	0.68	2.00	0.29	1.30	0.10	0.75	0.03	0.75	0.03	0.75	0.03	0.75	0.03	0.75	0.03
P.S.I. Loss	32.00	12.87	24.42	7.49	6.43	5.50	3.04	3.34	0.90	2.34	0.38	1.51	0.13	0.88	0.04	0.35	0.04	0.35	0.04	0.35	0.04	0.35	0.04	0.35	0.04
Velocity F.P.S.	34.00	14.83	31.27	8.56	8.23	6.29	3.89	3.81	1.15	2.67	0.49	1.73	0.17	1.00	0.04	0.44	0.04	0.44	0.04	0.44	0.04	0.44	0.04	0.44	0.04
P.S.I. Loss	36.00	16.88	38.89	9.84	10.24	7.08	4.84	4.29	1.43	3.01	0.60	1.85	0.21	1.13	0.06	0.49	0.05	0.49	0.05	0.49	0.05	0.49	0.05	0.49	0.05
Velocity F.P.S.	38.00	18.93	47.27	10.71	12.45	7.87	5.88	4.77	1.74	3.34	0.73	2.18	0.28	1.25	0.07	0.55	0.01	0.55	0.01	0.55	0.01	0.55	0.01	0.55	0.01
Velocity F.P.S.	40.00	11.78	14.85	8.05	7.91	5.25	2.08	3.06	0.88	2.28	0.30	1.38	0.13	0.86	0.06	0.50	0.01	0.50	0.01	0.50	0.01	0.50	0.01	0.50	0.01
P.S.I. Loss	42.00	12.85	17.45	9.44	8.24	5.72	2.44	4.01	1.03	2.60	0.38	1.51	0.13	0.88	0.06	0.51	0.10	0.86	0.01	0.86	0.01	0.86	0.01	0.86	0.01
Velocity F.P.S.	44.00	13.82	20.23	10.23	6.58	6.20	2.83	4.35	1.19	2.81	0.41	1.63	0.11	0.72	0.02	0.51	0.11	0.72	0.02	0.51	0.11	0.72	0.02	0.51	0.11
P.S.I. Loss	46.00	14.99	23.21	11.01	10.96	6.88	3.25	4.68	1.37	3.03	0.48	1.76	0.13	0.77	0.02	0.51	0.13	0.77	0.02	0.51	0.13	0.77	0.02	0.51	0.13
Velocity F.P.S.	48.00	16.06	26.37	11.80	12.48	7.18	3.69	5.01	1.56	3.25	0.54	1.88	0.14	0.83	0.02	0.51	0.14	0.83	0.02	0.51	0.14	0.83	0.02	0.51	0.14
Velocity F.P.S.	50.00	17.13	29.72	12.59	14.94	7.83	4.15	5.35	1.75	3.46	0.61	2.01	0.16	0.89	0.02	0.51	0.16	0.89	0.02	0.51	0.16	0.89	0.02	0.51	0.16
P.S.I. Loss	52.00	18.21	33.20	13.37	15.71	8.11	4.65	5.65	1.96	3.68	0.68	2.13	0.18	0.94	0.02	0.51	0.18	0.94	0.02	0.51	0.18	0.94	0.02	0.51	0.18
Velocity F.P.S.	54.00	19.28	36.97	14.18	17.48	8.69	5.19	6.02	2.18	3.90	0.78	2.26	0.20	0.99	0.03	0.51	0.20	0.99	0.03	0.51	0.20	0.99	0.03	0.51	0.20
P.S.I. Loss	56.00	20.35	40.97	14.96	19.30	9.07	5.72	6.35	2.41	4.11	0.84	2.39	0.22	1.05	0.03	0.51	0.22	1.05	0.03	0.51	0.22	1.05	0.03	0.51	0.22
Velocity F.P.S.	58.00	21.42	45.14	15.74	21.22	9.54	6.29	6.68	2.65	4.33	0.92	2.51	0.25	1.10	0.03	0.51	0.25	1.10	0.03	0.51	0.25	1.10	0.03	0.51	0.25
Velocity F.P.S.	60.00	22.49	49.41	16.52	23.14	10.01	6.88	7.01	2.89	4.55	1.00	2.63	0.28	1.15	0.04	0.51	0.28	1.15	0.04	0.51	0.28	1.15	0.04	0.51	0.28
P.S.I. Loss	62.00	23.56	53.78	17.30	25.06	10.48	7.48	7.34	3.17	4.77	1.08	2.75	0.30	1.20	0.04	0.51	0.30	1.20	0.04	0.51	0.30	1.20	0.04	0.51	0.30
Velocity F.P.S.	64.00	24.63	58.15	18.07	27.01	10.95	8.05	7.67	3.45	4.99	1.16	2.87	0.32	1.25	0.04	0.51	0.32	1.25	0.04	0.51	0.32	1.25	0.04	0.51	0.32
P.S.I. Loss	66.00	25.70	62.52	18.84	28.96	11.42	8.72	7.96	3.73	5.21	1.24	2.99	0.34	1.30	0.04	0.51	0.34	1.30	0.04	0.51	0.34	1.30	0.04	0.51	0.34
Velocity F.P.S.	68.00	26.77	66.89	19.61	30.91	11.89	9.39	8.25	4.01	5.43	1.32	3.11	0.36	1.35	0.04	0.51	0.36	1.35	0.04	0.51	0.36	1.35	0.04	0.51	0.36
P.S.I. Loss	70.00	27.84	71.26	20.38	32.86	12.36	10.06	8.54	4.29	5.65	1.40	3.23	0.38	1.40	0.04	0.51	0.38	1.40	0.04	0.51	0.38	1.40	0.04	0.51	0.38
Velocity F.P.S.	72.00	28.91	75.63	21.15	34.81	12.83	10.73	8.87	4.57	5.87	1.48	3.35	0.40	1.45	0.04	0.51	0.40	1.45	0.04	0.51	0.40	1.45	0.04	0.51	0.40
P.S.I. Loss	74.00	30.00	80.00	21.92	36.76	13.30	11.40	9.20	4.85	6.09	1.56	3.47	0.42	1.50	0.04	0.51	0.42	1.50	0.04	0.51	0.42	1.50	0.04	0.51	0.42
Velocity F.P.S.	76.00	31.09																							

# friction loss characteristics

## PVC CLASS 125 IPS PLASTIC PIPE

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

Velocity of flow values are computed from the general equation:  
 $V = 408 \frac{Q}{d^2}$

Friction pressure loss values are computed from the equation:  
 $h_f = 0.2083 \left( \frac{100}{d} \right)^{1.85} \frac{Q^{1.85}}{d^{4.75}}$

Flow G.P.M.	1"		1 1/4"		1 1/2"		2"		2 1/2"		3"		4"		6"	
	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss
1	0.27	0.02	0.17	0.01	0.12	0.00										
2	0.55	0.06	0.34	0.02	0.25	0.01	0.16	0.00								
3	0.83	0.13	0.51	0.04	0.38	0.02	0.24	0.01								
4	1.11	0.22	0.68	0.07	0.51	0.03	0.32	0.01	0.22	0.00						
5	1.39	0.33	0.85	0.10	0.64	0.05	0.41	0.02	0.28	0.01						
6	1.68	0.46	1.02	0.14	0.78	0.07	0.49	0.02	0.33	0.01						
7	1.94	0.62	1.19	0.19	0.80	0.09	0.57	0.03	0.39	0.01	0.28	0.00				
8	2.22	0.79	1.36	0.24	1.02	0.12	0.65	0.04	0.44	0.02	0.30	0.01				
9	2.50	0.98	1.53	0.30	1.15	0.15	0.73	0.05	0.50	0.02	0.34	0.01				
10	2.78	1.19	1.70	0.38	1.28	0.18	0.82	0.06	0.56	0.02	0.37	0.01				
11	3.06	1.42	1.87	0.43	1.41	0.22	0.90	0.07	0.61	0.03	0.41	0.01				
12	3.35	1.67	2.04	0.51	1.53	0.25	0.98	0.08	0.67	0.03	0.45	0.01	0.27	0.00		
14	3.89	2.22	2.38	0.67	1.79	0.34	1.14	0.11	0.78	0.05	0.52	0.02	0.32	0.01		
18	4.45	2.85	2.72	0.88	2.05	0.43	1.31	0.15	0.89	0.06	0.60	0.02	0.36	0.01		
20	5.00	3.54	3.06	1.07	2.30	0.54	1.47	0.18	1.00	0.07	0.66	0.03	0.41	0.01		
22	5.58	4.31	3.40	1.30	2.56	0.65	1.64	0.22	1.12	0.08	0.75	0.03	0.45	0.01		
24	6.12	5.14	3.74	1.58	2.82	0.78	1.80	0.26	1.23	0.10	0.83	0.04	0.50	0.01		
26	6.67	6.04	4.08	1.83	3.07	0.92	1.97	0.31	1.34	0.12	0.90	0.05	0.54	0.01		
28	7.23	7.00	4.42	2.12	3.33	1.06	2.13	0.36	1.45	0.14	0.96	0.05	0.59	0.02		
28	7.78	8.03	4.76	2.43	3.58	1.22	2.29	0.41	1.56	0.16	1.05	0.06	0.64	0.02		
30	8.34	9.13	5.10	2.78	3.84	1.39	2.46	0.47	1.68	0.18	1.13	0.07	0.68	0.02		
35	9.73	12.14	5.85	3.86	4.48	1.84	2.87	0.62	1.96	0.25	1.32	0.09	0.80	0.03	0.38	0.00
40	11.12	15.55	6.81	4.71	5.12	2.38	3.28	0.80	2.24	0.31	1.51	0.12	0.91	0.04	0.42	0.01
45	12.51	19.34	7.96	5.88	5.76	2.94	3.69	0.99	2.52	0.39	1.70	0.15	1.02	0.04	0.47	0.01
50	13.91	23.50	9.31	7.12	6.40	3.57	4.10	1.21	2.80	0.48	1.89	0.18	1.14	0.05	0.52	0.01
55	15.30	28.04	10.86	8.49	7.05	4.28	4.51	1.44	3.08	0.57	2.06	0.22	1.25	0.06	0.58	0.01
60	16.69	32.94	12.21	9.96	7.69	5.00	4.92	1.69	3.36	0.67	2.23	0.26	1.37	0.06	0.63	0.01
65	18.08	38.21	11.06	11.57	8.33	5.80	5.33	1.96	3.64	0.77	2.45	0.30	1.48	0.06	0.68	0.01
70	19.47	43.83	11.91	13.27	8.97	6.55	5.74	2.25	3.92	0.88	2.64	0.34	1.60	0.10	0.73	0.02
75			12.76	15.06	9.61	7.58	6.15	2.58	4.20	1.01	2.85	0.38	1.71	0.11	0.79	0.02
80			13.62	17.00	10.25	8.52	6.56	2.88	4.48	1.14	3.02	0.44	1.82	0.13	0.84	0.02
85			14.47	19.02	10.89	9.53	6.98	3.23	4.76	1.27	3.21	0.49	1.94	0.14	0.89	0.02
90			15.32	21.14	11.53	10.80	7.39	3.59	5.04	1.41	3.40	0.54	2.05	0.16	0.95	0.02
95			16.17	23.37	12.17	11.71	7.80	3.96	5.32	1.56	3.59	0.60	2.17	0.18	1.02	0.03
100			17.02	25.69	12.81	12.88	8.21	4.36	5.60	1.72	3.78	0.66	2.28	0.19	1.05	0.03
110			16.72	30.85	14.10	15.37	9.03	5.20	6.19	2.05	4.19	0.78	2.51	0.23	1.16	0.04
120					15.38	18.06	9.85	6.11	6.72	2.41	4.53	0.83	2.74	0.27	1.26	0.04
130					16.86	20.94	10.67	7.09	7.29	2.79	4.91	1.00	2.97	0.32	1.37	0.05
140					17.94	24.04	11.49	8.13	7.84	3.20	5.29	1.23	3.20	0.36	1.47	0.06
150					19.22	27.30	12.31	9.24	8.40	3.64	5.67	1.40	3.43	0.41	1.58	0.06
160							13.13	10.41	8.96	4.10	6.05	1.58	3.65	0.46	1.68	0.07
170							13.96	11.65	9.52	4.59	6.43	1.77	3.88	0.52	1.79	0.08
180							14.78	12.95	10.08	5.10	6.80	1.96	4.11	0.58	1.89	0.08
190							15.60	14.31	10.64	5.64	7.16	2.17	4.34	0.64	2.00	0.10
200							16.42	15.74	11.20	6.20	7.58	2.38	4.57	0.70	2.11	0.11
225							18.47	19.57	12.80	7.72	8.61	2.87	5.14	0.87	2.37	0.13
250									14.00	8.38	9.45	3.21	5.71	1.06	2.63	0.16
275									15.40	11.19	10.40	4.31	6.38	1.27	2.90	0.19
300									16.80	13.15	11.34	5.38	6.88	1.49	3.16	0.23
325									18.20	15.25	12.29	5.87	7.43	1.72	3.43	0.28
350									19.60	17.49	13.24	6.73	8.00	1.98	3.69	0.30
375											14.16	7.85	6.57	2.25	3.95	0.34
400											15.13	8.82	7.14	2.53	4.22	0.38
425											16.07	9.85	8.71	2.83	4.48	0.43
450											17.02	10.72	10.29	3.15	4.75	0.48
475											17.99	11.85	10.86	3.48	5.01	0.53
500											18.91	13.03	11.43	3.83	5.27	0.58
550													12.57	4.57	5.80	0.70
600													13.72	5.37	6.33	0.82

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

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# friction loss characteristics

## PVC CLASS 160 IPS PLASTIC PIPE

(1120, 1223) SDR 26 C = 150  
PSI LOSS PER 100 FEET OF PIPE (PSI/100 FT)

Velocity of flow values are computed from the general equation:  
 $V = 408 \frac{C}{\sqrt{f}}$

Friction pressure loss values are computed from the equation:  
 $h_f = 0.2083 \left( \frac{100}{C} \right)^{1.85} \frac{Q^{1.85}}{D^{4.97}}$

SIZE OD ID WALL THK	Flow GPM 1 thru 600									
	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"	10"
	1.315	1.660	1.900	2.375	2.875	3.900	4.500	5.625	6.625	8.625
	1.211	1.546	1.784	2.220	2.699	3.284	4.224	5.217	6.217	8.217
	0.052	0.066	0.088	0.073	0.088	0.108	0.138	0.204	0.204	0.204
Flow G.P.M.	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss
1	0.25	0.02	0.17	0.01	0.13	0.00				
2	0.57	0.06	0.34	0.02	0.28	0.01				
3	0.85	0.14	0.52	0.04	0.38	0.02				
4	1.14	0.23	0.69	0.07	0.53	0.04				
5	1.42	0.35	0.86	0.11	0.68	0.05	0.23	0.05		
8	1.71	0.49	1.04	0.15	0.79	0.08	0.50	0.03	0.34	0.01
7	1.99	0.66	1.21	0.20	0.82	0.10	0.59	0.03	0.40	0.01
6	2.25	0.84	1.39	0.25	1.06	0.13	0.67	0.04	0.46	0.02
5	2.57	1.05	1.56	0.31	1.19	0.16	0.76	0.05	0.52	0.02
4	2.85	1.27	1.73	0.38	1.32	0.20	0.84	0.07	0.57	0.03
11	3.14	1.52	1.91	0.45	1.45	0.23	0.93	0.08	0.63	0.03
12	3.42	1.78	2.08	0.53	1.59	0.28	1.01	0.09	0.69	0.04
14	3.99	2.37	2.43	0.71	1.85	0.37	1.18	0.12	0.81	0.05
18	4.57	3.04	2.78	0.91	2.12	0.47	1.35	0.16	0.92	0.06
19	5.14	3.78	3.12	1.13	2.38	0.58	1.52	0.20	1.04	0.08
20	5.71	4.59	3.47	1.37	2.65	0.71	1.69	0.24	1.15	0.09
22	6.25	5.48	3.82	1.64	2.91	0.85	1.86	0.29	1.27	0.11
24	6.85	6.44	4.17	1.92	3.18	1.00	2.03	0.34	1.38	0.13
26	7.42	7.47	4.51	2.23	3.44	1.15	2.20	0.39	1.50	0.15
28	7.99	8.57	4.86	2.56	3.71	1.32	2.37	0.45	1.62	0.18
30	8.57	9.74	5.21	2.91	3.97	1.50	2.54	0.51	1.73	0.20
35	9.99	12.95	6.08	3.67	4.84	2.00	2.96	0.68	2.02	0.27
40	11.42	16.59	6.95	4.95	5.30	2.58	3.39	0.86	2.31	0.34
45	12.85	20.63	7.82	6.19	5.96	3.19	3.81	1.08	2.60	0.42
50	14.28	25.07	8.69	7.49	6.83	3.88	4.24	1.31	2.89	0.52
55	15.71	29.91	9.56	8.93	7.29	4.62	4.68	1.58	3.18	0.62
60	17.14	35.14	10.43	10.49	7.95	5.43	5.09	1.83	3.47	0.72
65	18.57	40.76	11.29	12.17	8.82	6.30	5.51	2.12	3.76	0.84
70	19.99	46.76	12.16	13.99	9.89	7.23	5.93	2.44	4.05	0.96
75			13.03	15.89	9.94	8.21	6.36	2.77	4.34	1.09
80			13.90	17.86	10.80	9.25	6.78	3.12	4.63	1.23
85			14.77	20.00	11.27	10.35	7.21	3.49	4.91	1.38
90			15.64	22.23	11.95	11.51	7.69	3.88	5.20	1.53
95			16.51	24.56	12.59	12.72	8.05	4.29	5.49	1.69
100			17.38	27.03	13.26	13.99	8.48	4.72	5.78	1.86
110			19.12	32.24	14.56	16.89	9.33	5.83	6.36	2.22
120					15.81	19.81	10.18	6.81	6.94	2.61
130					17.24	22.74	11.02	7.87	7.52	3.03
140					18.56	26.09	11.87	8.90	8.10	3.47
150					19.89	29.94	12.72	10.00	8.68	3.94
160							13.57	11.27	9.28	4.45
170							14.42	12.81	9.83	4.97
180							15.27	14.52	10.41	5.53
190							16.11	16.49	10.99	6.11
200							16.96	17.93	11.57	6.72
225							19.08	21.19	13.02	8.36
250									14.47	10.16
275									15.91	12.12
300									17.39	14.24
325									18.51	16.51
350									19.86	19.04
375									21.49	21.75
400									23.34	24.64
425									25.40	27.76
450									27.68	31.13
475									30.17	34.86
500									32.88	38.94
550									38.94	48.94
600									45.54	60.00

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

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# friction loss characteristics

## PVC CLASS 200 IPS PLASTIC PIPE (1120, 1220) SDR 21 C = 150 PSI LOSS PER 100 FEET OF PIPE (PSI/100 FT)

Velocity of flow values are computed from the general equation:  
 $V = .408 \sqrt{\frac{C}{f}}$   
 Friction pressure loss values are computed from the equation:  
 $f = 0.0003 \left( \frac{100}{C} \right)^{1.49} \frac{Q^{1.85}}{D^{4.97}}$

SIZE	SIZES 3/4" thru 6"									
	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
CD	1.260	1.315	1.560	1.900	2.235	2.255	3.530	4.520	6.525	8.525
ID	.860	1.211	1.548	1.794	2.226	2.598	3.284	4.224	6.217	8.217
WALL THK	.060	0.052	0.055	0.055	0.073	0.088	0.108	0.138	0.204	0.254
Flow G.P.M.	Flow GPM 1 thru 600									
	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss
1	0.47	0.06	0.29	0.02	0.18	0.01	0.13	0.00		
2	0.94	0.22	0.57	0.07	0.38	0.02	0.27	0.01	0.17	0.00
3	1.42	0.48	0.85	0.14	0.54	0.04	0.41	0.02	0.28	0.01
4	1.89	0.79	1.15	0.24	0.72	0.08	0.55	0.04	0.35	0.01
5	2.36	1.20	1.44	0.36	0.90	0.12	0.68	0.06	0.44	0.02
6	2.83	1.68	1.73	0.51	1.08	0.18	0.82	0.08	0.53	0.03
7	3.30	2.23	2.02	0.67	1.28	0.22	0.98	0.11	0.61	0.04
8	3.77	2.85	2.30	0.86	1.44	0.28	1.10	0.14	0.70	0.05
9	4.25	3.55	2.59	1.07	1.62	0.34	1.24	0.18	0.79	0.06
10	4.72	4.31	2.88	1.30	1.80	0.42	1.37	0.22	0.88	0.07
11	5.19	5.15	3.17	1.56	1.98	0.50	1.51	0.28	0.97	0.09
12	5.66	6.05	3.48	1.83	2.17	0.59	1.65	0.30	1.08	0.10
14	6.80	8.06	4.04	2.49	2.53	0.78	1.93	0.40	1.23	0.14
16	7.55	10.20	4.81	3.11	2.89	1.00	2.20	0.52	1.41	0.17
18	8.49	12.81	5.19	3.87	3.25	1.24	2.48	0.64	1.59	0.22
20	9.43	15.58	5.77	4.71	3.81	1.51	2.75	0.78	1.78	0.28
22	10.38	18.58	6.34	5.82	3.97	1.80	3.03	0.93	1.94	0.32
24	11.32	21.83	6.92	6.80	4.34	2.12	3.30	1.09	2.12	0.37
26	12.27	25.32	7.50	7.85	4.70	2.46	3.58	1.27	2.29	0.43
28	13.21	29.04	8.08	8.78	5.06	2.82	3.88	1.46	2.47	0.49
30	14.15	33.00	8.65	9.98	5.42	3.20	4.13	1.68	2.65	0.58
35	16.51	43.91	10.10	13.27	6.32	4.28	4.82	2.20	3.09	0.75
40	18.87	56.23	11.54	17.00	7.23	5.45	5.51	2.82	3.53	0.95
45			12.98	21.14	8.13	6.78	6.20	3.51	3.87	1.19
50			14.42	25.70	9.04	8.24	6.89	4.28	4.41	1.44
55			15.87	30.88	9.94	9.83	7.58	5.09	4.85	1.72
60			17.31	36.02	10.85	11.55	8.27	5.97	5.30	2.02
65			18.75	41.77	11.75	13.40	8.96	6.93	5.74	2.35
70					12.95	15.37	9.65	7.95	6.18	2.69
75					13.55	17.47	10.34	9.03	6.82	3.06
80					14.49	19.68	11.03	10.18	7.08	3.44
85					15.37	22.02	11.72	11.39	7.50	3.85
90					16.27	24.48	12.41	12.66	7.95	4.28
95					17.18	27.06	13.10	13.99	8.39	4.74
100					18.06	29.78	13.79	15.29	8.83	5.21
110					19.89	35.50	15.17	18.36	9.71	6.21
120							16.54	21.57	10.60	7.20
130							17.32	25.02	11.48	8.47
140							18.30	28.70	12.38	9.71
150							19.25	32.64	13.25	11.04
160							14.13	12.44	8.64	4.91
170							15.01	13.91	10.25	5.50
180							15.90	15.47	10.85	6.11
190							16.78	17.10	11.45	6.73
200							17.68	18.80	12.08	7.43
225							18.67	23.28	13.56	9.24
250									15.07	11.23
275									16.58	13.39
300									18.09	15.74
325									19.60	18.25
350									14.24	8.05
375									15.28	9.14
400									16.28	10.30
425									17.29	11.53
450									18.31	12.81
475									19.33	14.18
500									12.30	6.58
550									13.53	8.48
600									14.76	9.62

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

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# friction loss characteristics

## PVC CLASS 315 IPS PLASTIC PIPE (1120, 1220) SDR 13.5 C = 150 PSI LOSS PER 100 FEET OF PIPE (PSI/100 FT)

Velocity of flow values are computed from the general equation:  
 $V = .406 \frac{Q}{d^2}$

Friction pressure loss values are computed from the equation:  
 $h_f = 0.0008 \left( \frac{100}{C} \right)^{1.85} \frac{Q^{1.85}}{d^{4.75}}$

SIZE	1/2"		3/4"		1"		1 1/4"		1 1/2"		2"		2 1/2"		3"		4"		6"			
	Flow G.P.M.	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	
1	0.70	0.22	0.51	0.07	0.32	0.02	0.20	0.01	0.15	0.00												
2	1.50	0.78	1.02	0.27	0.64	0.09	0.40	0.03	0.31	0.01	0.19	0.00										
3	2.38	1.05	1.53	0.58	0.97	0.19	0.61	0.06	0.46	0.03	0.29	0.01	0.25	0.00								
4	3.18	2.82	2.04	0.96	1.29	0.32	0.81	0.10	0.62	0.05	0.39	0.02	0.27	0.01								
5	3.97	4.25	2.56	1.45	1.82	0.48	1.02	0.16	0.77	0.08	0.49	0.03	0.34	0.01	0.22	0.00						
6	4.77	5.97	3.08	2.03	1.94	0.67	1.22	0.22	0.89	0.11	0.59	0.04	0.40	0.02	0.27	0.01						
7	5.57	7.95	3.57	2.70	2.27	0.90	1.42	0.29	1.09	0.15	0.80	0.05	0.47	0.02	0.32	0.01						
8	6.36	10.18	4.06	3.45	2.59	1.15	1.63	0.37	1.24	0.19	0.70	0.06	0.54	0.03	0.38	0.01						
9	7.16	12.66	4.59	4.30	2.92	1.43	1.83	0.46	1.40	0.24	0.89	0.08	0.61	0.03	0.41	0.01						
10	7.95	15.38	5.10	5.22	3.24	1.74	2.04	0.56	1.55	0.29	0.99	0.10	0.68	0.04	0.46	0.01	0.27	0.00				
11	8.75	18.35	5.61	6.23	3.57	2.07	2.24	0.67	1.71	0.35	1.09	0.12	0.74	0.05	0.50	0.02	0.30	0.01				
12	9.55	21.55	6.12	7.32	3.89	2.43	2.44	0.79	1.87	0.41	1.19	0.14	0.81	0.05	0.55	0.02	0.33	0.01				
14	11.14	28.69	7.14	9.74	4.54	3.24	2.85	1.05	2.18	0.54	1.39	0.18	0.95	0.07	0.64	0.03	0.38	0.01				
16	12.73	36.74	8.16	12.47	5.19	4.15	3.26	1.34	2.49	0.70	1.59	0.23	1.08	0.09	0.73	0.04	0.44	0.01				
18	14.32	45.69	9.18	15.51	5.84	5.16	3.67	1.67	2.80	0.87	1.79	0.26	1.22	0.12	0.82	0.04	0.49	0.01				
20	15.91	55.54	10.20	18.86	6.49	6.27	4.08	2.03	3.11	1.05	1.99	0.28	1.36	0.14	0.91	0.05	0.55	0.02				
22	17.50	66.26	11.23	22.50	7.14	7.48	4.48	2.42	3.42	1.25	2.19	0.32	1.48	0.17	1.00	0.06	0.61	0.02				
24	19.10	77.84	12.25	26.43	7.79	8.79	4.89	2.84	3.74	1.47	2.39	0.35	1.63	0.20	1.10	0.08	0.66	0.02				
26			13.27	30.95	8.44	10.19	5.30	3.29	4.05	1.71	2.59	0.38	1.76	0.23	1.19	0.09	0.72	0.03				
28			14.29	36.15	9.09	11.69	5.71	3.78	4.36	1.96	2.79	0.41	1.92	0.25	1.28	0.10	0.77	0.03	0.36	0.00		
30			15.31	39.95	9.74	13.29	6.12	4.29	4.67	2.23	2.99	0.44	2.04	0.26	1.37	0.11	0.83	0.03	0.38	0.01		
35			17.86	53.15	11.38	17.68	7.14	5.71	5.45	2.96	3.48	0.50	2.38	0.30	1.60	0.15	0.97	0.04	0.44	0.01		
40					12.96	22.84	8.16	7.31	6.23	3.80	3.68	0.52	2.72	0.31	1.83	0.19	1.11	0.06	0.51	0.01		
45					14.81	28.15	9.18	9.10	7.01	4.72	4.48	0.56	3.05	0.33	2.06	0.24	1.24	0.07	0.57	0.01		
50					16.23	34.22	10.20	11.06	7.79	5.74	4.98	0.61	3.40	0.35	2.29	0.29	1.35	0.09	0.64	0.01		
55			17.85	40.83	11.22	13.19	8.57	6.85	8.58	6.48	5.48	0.65	3.74	0.37	2.52	0.35	1.52	0.10	0.70	0.02		
60			19.46	47.67	12.24	15.60	9.36	8.04	9.36	7.21	6.08	0.70	4.08	0.40	2.75	0.41	1.69	0.12	0.76	0.02		
65					13.26	17.87	10.13	9.33	6.48	3.15	4.42	0.62	4.24	0.42	2.96	0.48	1.80	0.14	0.83	0.02		
70					14.28	20.82	10.90	10.70	6.97	3.61	4.76	0.65	4.76	0.44	3.21	0.55	1.94	0.16	0.89	0.02		
75					15.30	23.43	11.68	12.16	7.47	4.10	5.10	0.68	5.10	0.46	3.44	0.62	2.05	0.18	0.96	0.03		
80					16.32	26.40	12.46	13.71	7.97	4.62	5.44	0.71	5.44	0.48	3.67	0.70	2.22	0.21	1.02	0.03		
85					17.34	29.54	13.24	15.33	8.47	5.17	5.78	0.74	5.78	0.50	3.89	0.78	2.35	0.23	1.08	0.04		
90					18.36	32.84	14.02	17.06	8.97	5.76	6.12	0.77	6.12	0.52	4.12	0.87	2.49	0.26	1.16	0.04		
95					19.38	36.30	14.80	18.84	9.47	6.35	6.46	0.80	6.46	0.54	4.35	0.96	2.63	0.28	1.21	0.04		
100					20.39	39.90	15.58	20.72	9.96	6.96	6.80	0.83	6.80	0.56	4.58	1.06	2.77	0.31	1.28	0.05		
110					21.14	24.72	10.96	8.34	7.48	3.29	5.04	0.86	7.34	0.59	5.04	1.26	3.05	0.37	1.40	0.06		
120					22.04	29.04	11.96	9.78	8.07	3.89	5.50	0.90	7.79	0.62	5.50	1.48	3.33	0.44	1.53	0.07		
130					22.96	33.84	12.96	11.26	8.84	4.45	6.06	0.94	8.25	0.65	6.06	1.72	3.60	0.51	1.66	0.08		
140					23.88	39.00	13.96	13.00	9.62	5.14	6.42	0.98	8.72	0.68	6.42	1.97	3.88	0.58	1.79	0.09		
150					24.80	44.40	14.96	14.81	10.20	5.84	6.88	1.02	9.22	0.71	6.88	2.24	4.15	0.66	1.92	0.10		
160					25.72	50.00	15.96	15.66	10.89	6.59	7.34	1.06	9.72	0.74	7.34	2.53	4.44	0.74	2.04	0.11		
170					26.64	55.80	16.96	16.67	11.55	7.37	7.79	1.10	10.22	0.77	7.79	2.83	4.71	0.83	2.17	0.13		
180					27.56	61.80	17.96	17.54	12.24	8.19	8.25	1.14	10.72	0.80	8.25	3.14	4.99	0.93	2.30	0.14		
190					28.48	67.90	18.96	18.84	12.82	9.05	8.71	1.18	11.22	0.83	8.71	3.47	5.27	1.02	2.43	0.15		
200					29.40	74.20	19.96	19.89	13.40	9.96	9.17	1.22	11.72	0.86	9.17	3.82	5.55	1.12	2.56	0.17		
225					31.32	86.40	21.96	22.38	14.40	11.16	10.12	1.26	12.72	0.90	10.12	4.15	6.12	1.21	2.68	0.21		
250					33.24	99.00	23.96	25.34	15.40	12.36	11.17	1.30	13.72	0.94	11.17	4.44	6.72	1.30	2.80	0.26		
275					35.16	112.00	25.96	28.30	16.40	13.60	12.22	1.34	14.72	0.98	12.22	4.73	7.32	1.39	2.92	0.31		
300					37.08	126.00	27.96	31.26	17.40	14.84	13.17	1.38	15.72	1.02	13.17	5.02	7.92	1.48	3.04	0.36		
325					39.00	141.00	29.96	34.22	18.40	16.08	14.12	1.42	16.72	1.06	14.12	5.31	8.52	1.57	3.16	0.41		
350					40.92	157.00	31.96	37.18	19.40	17.32	15.07	1.46	17.72	1.10	15.07	5.60	9.12	1.66	3.28	0.46		
375					42.84	174.00	33.96	40.14	20.40	18.56	16.02	1.50	18.72	1.14	16.02	5.89	9.72	1.75	3.40	0.51		
400					44.76	192.00	35.96	43.10	21.40	19.80	17.07	1.54	19.72	1.18	17.07	6.18	10.32	1.84	3.52	0.56		
425					46.68	210.00	37.96	46.06	22.40	20.94	18.02	1.58	20.72	1.22	18.02	6.47	10.92	1.93	3.64	0.61		
450					48.60	229.00	39.96	49.02	23.40	22.08	19.07	1.62	21.72	1.26	19.07	6.76	11.52	2.02	3.76	0.66		
475					50.52	249.00	41.96	52.00	24.40	23.22	20.1											

# friction loss characteristics

## POLYETHYLENE (PE) SDR-PRESSURE RATED TUBE

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

Velocity of flow values are computed from the general equation:  
 $V = 406 \frac{C}{\sqrt{P}}$

Friction pressure loss values are computed from the equation:  
 $h_f = 0.2083 \left( \frac{100}{C} \right)^{1.85} \frac{Q^{1.85}}{d^{4.75}}$

Size 1/2" thru 6"  
Flow GPM 1 thru 600

SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
ID	0.622	0.834	1.049	1.385	1.610	2.067	2.469	3.068	4.925	6.065
Flow G.P.M.	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss	Velocity F.P.S.	P.S.I. Loss
1	1.05	0.40	0.80	0.12	0.37	0.04	0.21	0.01	0.00	0.00
2	2.10	1.75	1.20	0.45	0.74	0.14	0.42	0.04	0.31	0.02
3	3.16	3.73	1.80	0.95	1.11	0.29	0.64	0.08	0.64	0.08
4	4.21	6.35	2.40	1.62	1.48	0.50	0.86	0.13	0.82	0.06
5	5.27	9.63	3.00	2.44	1.85	0.76	1.07	0.20	0.78	0.06
6	6.32	13.45	3.60	3.43	2.22	1.06	1.28	0.28	0.94	0.13
7	7.38	17.91	4.20	4.58	2.59	1.41	1.49	0.37	1.10	0.18
8	8.43	22.93	4.80	5.84	2.96	1.80	1.71	0.47	1.25	0.22
9	9.49	28.52	5.40	7.28	3.33	2.24	1.92	0.59	1.41	0.28
10	10.54	34.67	6.00	8.82	3.70	2.73	2.14	0.72	1.57	0.34
11	11.60	41.36	6.60	10.53	4.07	3.25	2.35	0.86	1.73	0.40
12	12.65	48.60	7.21	12.37	4.44	3.82	2.57	1.01	1.88	0.48
14	14.78	64.05	8.41	16.48	5.19	5.08	2.99	1.34	2.20	0.63
16	16.87	82.79	9.81	21.07	5.93	6.51	3.42	1.71	2.51	0.81
18	18.98	102.97	10.81	26.21	6.67	8.10	3.85	2.13	2.83	1.01
20			12.01	31.85	7.41	9.84	4.28	2.59	3.14	1.22
22			13.21	38.01	8.15	11.74	4.71	3.09	3.46	1.48
24			14.42	44.65	8.89	13.79	5.14	3.63	3.77	1.72
26			15.62	51.79	9.64	16.00	5.57	4.21	4.09	1.99
28			16.82	59.41	10.38	18.36	5.99	4.83	4.40	2.28
30			18.02	67.53	11.12	20.86	6.42	5.49	4.72	2.59
35			12.87	27.74	7.49	7.31	5.90	3.45	3.34	1.02
40			14.83	35.53	8.58	9.36	6.29	4.42	3.81	1.31
45			16.86	44.19	9.84	11.64	7.08	5.50	4.29	1.63
50			18.83	53.71	11.21	14.14	7.87	6.68	4.77	1.98
55			11.78	16.87	8.85	7.97	5.25	2.98	3.88	1.05
60			12.86	19.82	9.44	9.36	5.72	2.78	4.01	1.17
65			13.92	22.99	10.23	10.86	6.20	3.22	4.35	1.36
70			14.99	26.37	11.01	12.46	6.68	3.66	4.69	1.56
75			15.06	29.67	11.80	14.16	7.16	4.20	5.01	1.77
80			17.13	33.77	12.59	15.95	7.63	4.73	5.35	1.99
85			18.21	37.79	13.37	17.85	8.11	5.26	5.68	2.23
90			19.28	42.01	14.16	19.84	8.69	5.88	6.02	2.48
95			14.95	21.93	9.67	6.50	6.35	2.74	4.11	0.95
100			15.74	24.12	9.54	7.15	6.69	3.01	4.33	1.05
110			17.31	28.77	10.50	8.53	7.38	3.59	4.78	1.25
120			18.88	33.80	11.45	10.02	8.02	4.22	5.20	1.47
130			12.41	11.82	5.75	4.90	5.63	1.70	3.27	0.45
140			13.38	13.23	6.37	5.62	6.06	1.95	3.62	0.52
150			14.32	15.15	7.03	6.36	6.50	2.22	3.77	0.59
160			15.27	17.08	7.79	6.93	2.50	4.02	0.57	1.77
170			16.23	19.11	8.55	7.38	2.80	4.27	0.75	1.88
180			17.18	21.24	9.35	7.06	3.11	4.53	0.88	1.99
190			18.14	23.48	10.21	8.09	3.44	4.78	0.92	2.10
200			19.09	25.81	11.07	8.88	3.78	5.03	1.01	2.21
225			15.05	13.52	6.75	4.70	5.65	1.25	2.48	0.17
250			16.73	16.44	7.51	5.29	1.32	2.77	0.21	
275			18.43	19.81	8.27	5.92	1.32	3.05	0.25	
300			13.00	6.01	7.55	2.18	3.32	0.29		
325			14.06	6.29	8.18	2.48	3.60	0.34		
350			15.17	10.65	8.81	2.94	3.88	0.39		
375			16.25	12.10	9.43	3.28	4.16	0.44		
400			17.33	13.64	10.05	3.64	4.43	0.50		
425			18.42	15.26	10.59	4.01	4.71	0.55		
450			19.50	16.97	11.32	4.52	4.99	0.62		
475			11.96	5.20	3.26	0.58				
500			12.55	5.50	3.54	0.75				
550			13.84	6.56	4.10	1.09				
600			15.10	7.70	4.85	1.36				

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

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## friction loss characteristics

### PIPE FITTINGS

Expressed as Equivalent Footage of Pipe

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

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

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

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## friction loss characteristics

friction loss characteristics

### WATER METERS

AWWA STANDARD PRESSURE LOSS: (PSI)

Flow G.P.M.	Nominal Size							
	5/8	3/4	1	1-1/2	2	3	4	
1	0.2	0.1						
2	0.3	0.2						
3	0.4	0.3						
4	0.6	0.3	0.1					
5	0.9	0.6	0.2					
6	1.3	0.7	0.3					
7	1.8	0.8	0.4					
8	2.3	1.0	0.5					
9	3.0	1.3	0.6					
10	3.7	1.6	0.7					
11	4.4	1.9	0.8					
12	5.1	2.2	0.9					
13	6.1	2.6	1.0					
14	7.2	3.1	1.1					
15	8.3	3.6	1.2					
16	9.4	4.1	1.4	0.4				
17	10.7	4.6	1.6	0.5				
18	12.0	5.2	1.8	0.6				
19	13.4	5.8	2.0	0.7				
20	15.0	6.5	2.2	0.8				
22		7.9	2.8	1.0				
24		9.3	3.4	1.2				
26		11.2	4.0	1.4				
28		13.0	4.8	1.6				
30		15.3	5.3	1.8	0.7			
32			6.0	2.1	0.8			
34			6.9	2.4	0.9			
36			7.6	2.7	1.0			
38			8.7	3.0	1.2			
40			9.6	3.3	1.3			
42			10.6	3.6	1.4			
44			11.7	3.9	1.5			
46			12.8	4.2	1.6			
48			13.9	4.5	1.7			
50			15.0	4.9	1.9	0.7		
52				5.3	2.1			
54				5.7	2.2			
56				6.2	2.3			
58				6.7	2.5			
60				7.2	2.7	1.0		
66				8.3	3.2	1.1		
70				9.8	3.7	1.3		
75				11.3	4.3	1.5		
80				12.8	4.9	1.6	0.7	
90				16.1	6.2	2.0	0.8	
100				20.0	7.8	2.5	0.9	
110					9.5	2.9	1.0	
120					11.3	3.4	1.2	
130					13.0	3.9	1.4	
140					15.1	4.5	1.6	
150					17.3	5.1	1.8	
160					20.0	5.8	2.1	
170						6.5	2.4	
180						7.2	2.7	
190						8.0	3.0	
200						9.0	3.2	
220						11.0	3.9	
240						13.0	4.7	
260						15.0	5.5	
280						17.3	6.3	
300						20.0	7.2	
350							10.0	
400							13.0	
450							16.2	
500							20.0	

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## POND PUMPS



450<sup>GPH</sup>

### #200450 POND PUMP

Magnetic Drive

PRODUCT FEATURES	INDIVIDUAL PACK	MASTER PACK	QTY: 2
10 ft max. lift	Gross weight: 4.4 lbs	Gross weight: 9.9 lbs	
25ft power cord	6" H x 12" W x 7" D	6.7" H x 12.5" W x 14.75" D	
Fits 1/2" accessories	Cube: 0.29	Cube: 0.73	
120V, 60 Hz, 45 Watts, 0.58 A, UL listed	UPC: 821539 102955	ITF: 10 821539 102952	



850<sup>GPH</sup>

### #200850 POND PUMP

Magnetic Drive

PRODUCT FEATURES	INDIVIDUAL PACK	MASTER PACK	QTY: 2
16.4ft max. lift	Gross weight: 6.3 lbs	Gross weight: 13.9 lbs	
25ft power cord	8" H x 12" W x 7.5" D	8.7" H x 12.5" W x 14.5" D	
Fits 1" accessories	Cube: 0.38	Cube: 0.95	
120V, 60 Hz, 60 Watts, 1.5 A, UL listed	UPC: 821539 102979	ITF: 10 821539 102976	



1250<sup>GPH</sup>

### #201250 POND PUMP

Direct Drive

PRODUCT FEATURES	INDIVIDUAL PACK	MASTER PACK	QTY: 2
21 ft max. lift	Gross weight: 8 lbs	Gross weight: 17.4 lbs	
25ft power cord	8" H x 12" W x 7" D	8.7" H x 12.5" W x 14.5" D	
Fits 1" accessories	Cube: 0.38	Cube: 0.95	
120V, 60 Hz, 125 Watts, 1.2 A, UL/CUL listed	UPC: 821539 102986	ITF: 10 821539 102983	



2000<sup>GPH</sup>

### #202000 POND PUMP

Direct Drive

PRODUCT FEATURES	INDIVIDUAL PACK	MASTER PACK	QTY: 2
23 ft max. lift	Gross weight: 8.5 lbs	Gross weight: 18.5 lbs	
25ft power cord	8.5" H x 16" W x 8" D	9" H x 16.75" W x 16.5" D	
Fits 1" accessories	Cube: 0.65	Cube: 1.52	
120V, 60 Hz, 175 Watts, 1.6 A, UL listed	UPC: 821539 102009	ITF: 10 821539 102006	



3000<sup>GPH</sup>

### #203000 POND PUMP

Direct Drive

PRODUCT FEATURES	INDIVIDUAL PACK	MASTER PACK	QTY: 2
26 ft max. lift	Gross weight: 14 lbs	Gross weight: 29.3 lbs	
25ft power cord	8.5" H x 16" W x 8" D	9" H x 16.75" W x 16.5" D	
Fits 1" accessories (with barb)	Cube: 0.65	Cube: 1.52	
120V, 60 Hz, 390 Watts, 2.55 A, UL listed	UPC: 821539 102016	ITF: 10 821539 102013	



4300<sup>GPH</sup>

### #204000 POND PUMP

Direct Drive

PRODUCT FEATURES	INDIVIDUAL PACK	MASTER PACK	QTY: 2
30 ft max. lift	Gross weight: 16 lbs	Gross weight: 33.7 lbs	
25ft power cord	8.75" H x 16" W x 8" D	9" H x 16.75" W x 16.5" D	
Fits 1" accessories (with barb)	Cube: 0.65	Cube: 1.52	
120V, 60 Hz, 450 Watts, 3.8 A, UL listed	UPC: 821539 102023	ITF: 10 821539 102020	



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# NELSON. TURF

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**Ordering Information**

I Nelson Landscape and Turf distributors can place service parts orders with:

Customer Service One Sprinkler Lane Peoria, IL 61615 888-NELSON-8 8:00 A.M. - 5:00 P.M. (CST) Fax 309-692-9152	4780 Eucalyptus Ave. Chino, CA 91710 800-800-0993 8:00 A.M. - 5:00 P.M. (PST) Fax 909-631-5025
---	--

I Refer to Distributor Terms (999-00020) for additional information.

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I Parts orders can be placed with:

Consumer Service  
One Sprinkler Lane  
Peoria, IL 61615  
888-NELSON-8  
8:00 A.M. - 5:00 P.M. (CST)

I Please include U.P.S. Charges:

Order Value:	U.P.S.
\$00.00 - \$10.00	\$5.00
\$10.01 - \$35.00	\$6.50
\$30.01 - \$50.00	\$8.00
\$50.01 and up	\$10.00

I (a) VISA  MasterCard   
Card Number \_\_\_\_\_  
Exp. Date: \_\_\_\_ / \_\_\_\_  
Phone # \_\_\_\_ - \_\_\_\_ - \_\_\_\_

I (b) Check or Money Orders

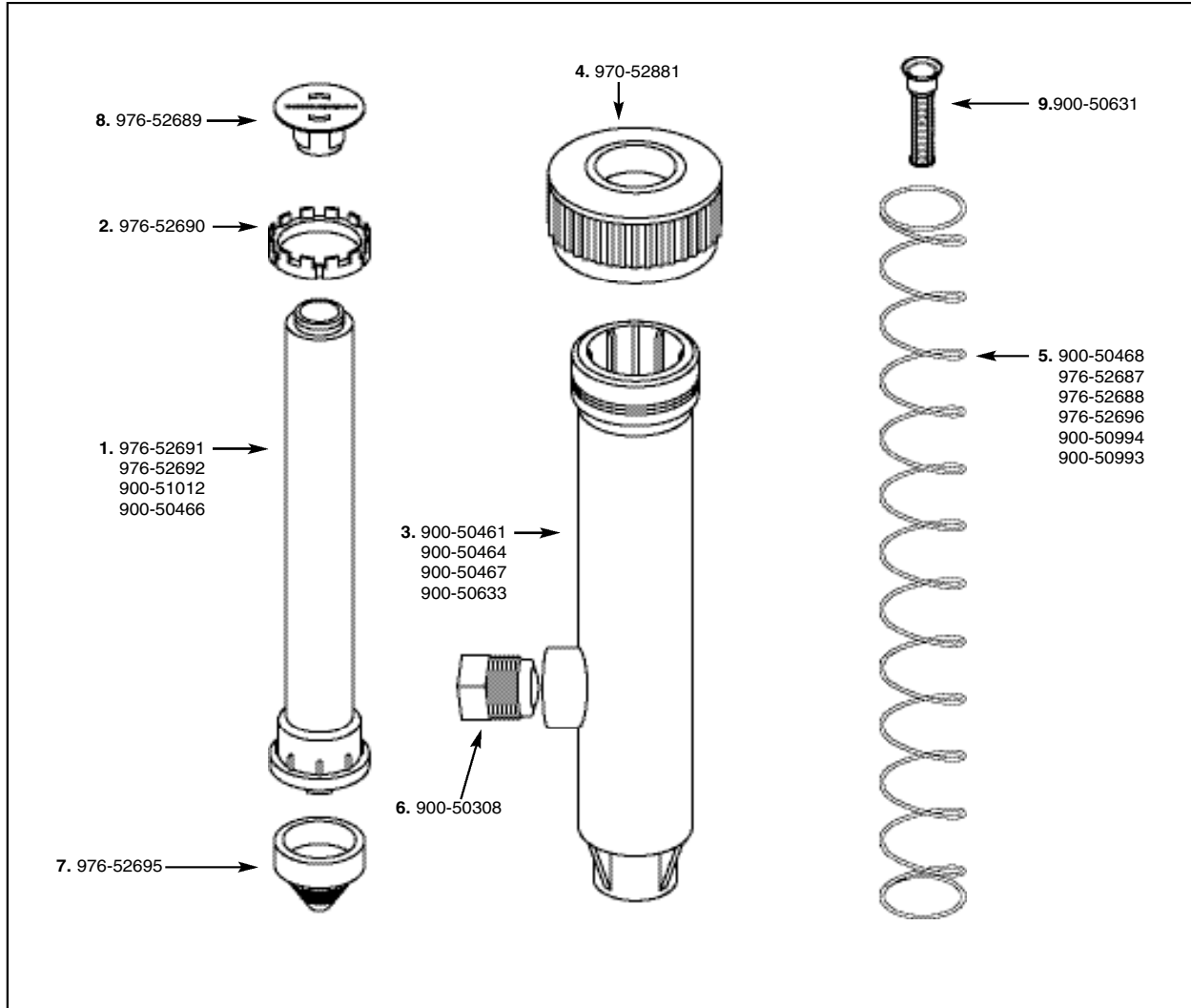
*January 1, 2007*

# NELSON TURF

## Pop-Up Spray Sprinklers

Models: 6302, 6304, 6306, 6312

6404-ADV, 6406-ADV, 6412-ADV



Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty.
976-52691	Piston 2-1/2" (6302)	1	1	976-52688	Compression Spring (6304)	5	1
976-52692	Piston 4" (6304 & 6404-ADV)	1	1	976-52687	Compression Spring (6404)	5	1
900-51012	Piston 6" (6306 & 6406-ADV)	1	1	900-50993	Compression Spring (6306)	5	1
900-50466	Piston 12" (6312 & 6412-ADV)	1	1	900-50993	Compression Spring (6406-ADV)	5	1
976-52690	Friction Collar	2	1	900-50468	Compression Spring (6312)	5	1
900-50633	Housing 2-1/2" (6302)	3	1	900-50994	Compression Spring (6412-ADV)	5	1
900-50461	Housing 4" (6304 & 6404-ADV)	3	1	900-50308	Cap Plug (6312 Only)	6	1
900-50464	Housing 6" (6306 & 6406-ADV)	3	1	976-52695	Anti Drain Valve	7	1
900-50467	Housing 12" (6312 & 6412-ADV)	3	1	976-52689	Pull-up Tool	8	1
976-52693	6300 Series Cap/Seal	4	1	900-50631	Fixed Pattern nozzle filter (white)	9	1
970-52881	6400 Series Cap/Seal	4	1	976-52696	Compression Spring (6302)	5	1

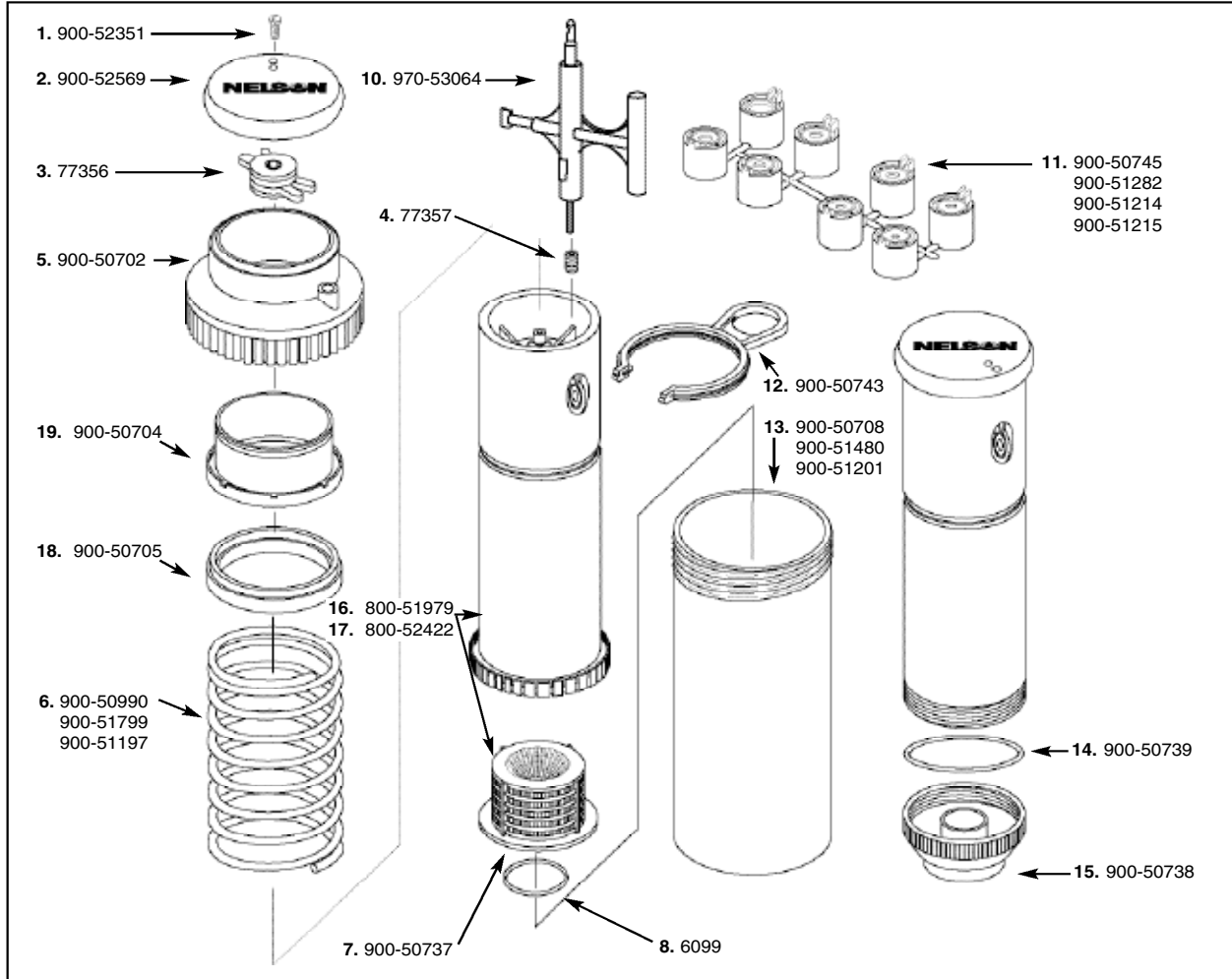
3

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# NELSON TURF

## Gear-Driven Sprinklers

Models: 5500, 5501, 5512-ADV, 6000, 6001, 6002  
6005-ADV, 6012-ADV, 6500-ADV



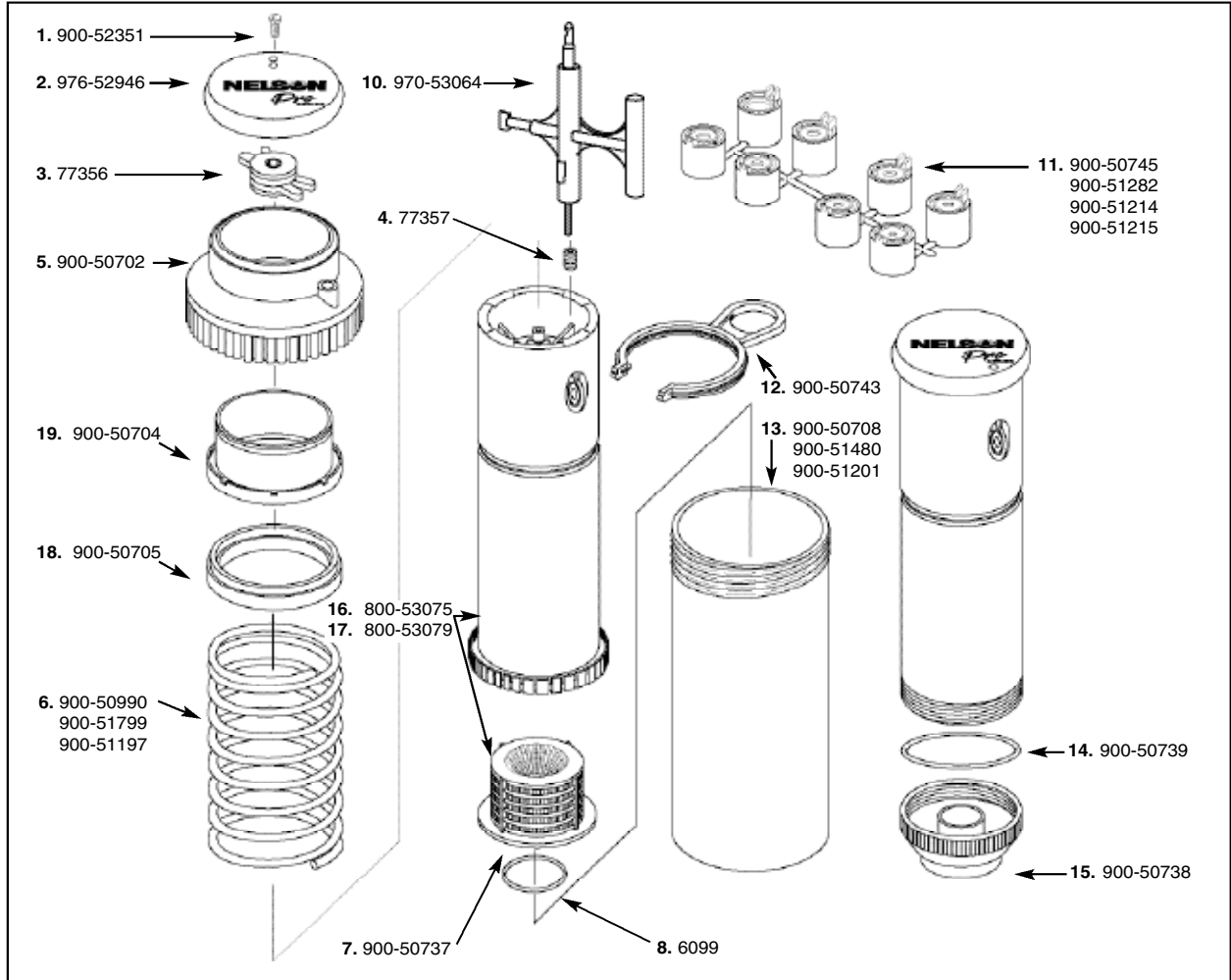
Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty.
900-52351	Locking Screw	1	1	900-51282	Nozzle Set (4) (5500, 5501, 5512)	11	1
900-52569	5500, 6000 and 6500 Series Protective Cap	2	1	900-51214	Nozzle Set - Low Angle (8) (6000, 6001, 6005, 6012)	11	1
77356	Click-Set® Disc	3	1	900-51215	Nozzle Set (4) (6500, 6503, 6505)	11	1
77357	Nozzle diffuser screw (bag of 10)	4	1	900-50743	Piston Retaining Clamp	12	1
900-50702	Pop-Up Cap W/Seal	5	1	900-50708	Body Canister (5500, 6000, 6002)	13	1
900-51799	Retraction Spring (5500, 6000)	6	1	900-51201	Body Canister (5512, 6012)	13	1
900-50990	Retraction Spring (5505, 6002, 6005, 6500)	6	1	900-51480	Ribbed Body Canister (6500)	13	1
900-51197	Retraction Spring (5512, 6012)	6	1	900-50739	Riser Adapter Seal (5501-6001)	14	1
900-50737	Filter Screen	7	1	900-50738	Shrub Riser Adapter (5501-6001)	15	1
6099	Anti-Drain Valve (bag of 50)	8	1	800-51979	Drive Assembly (5500)	16	1
970-53064	Gear Drive All-In-One Wrench	10	1	800-52422	Drive Assembly (6000)	17	1
900-50745	Nozzle Set (8) (6000, 6001, 6005, 6012)	11	1	900-50705	Spring Retainer	18	1
				900-50704	5500, 6000 & 6500 series seal	19	1

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# NELSON TURF

## Gear-Driven Sprinklers: Pro Series (2006 and later) Models: 5500, 5501, 5512-ADV, 6000, 6001, 6002 6005-ADV, 6012-ADV, 6500-ADV

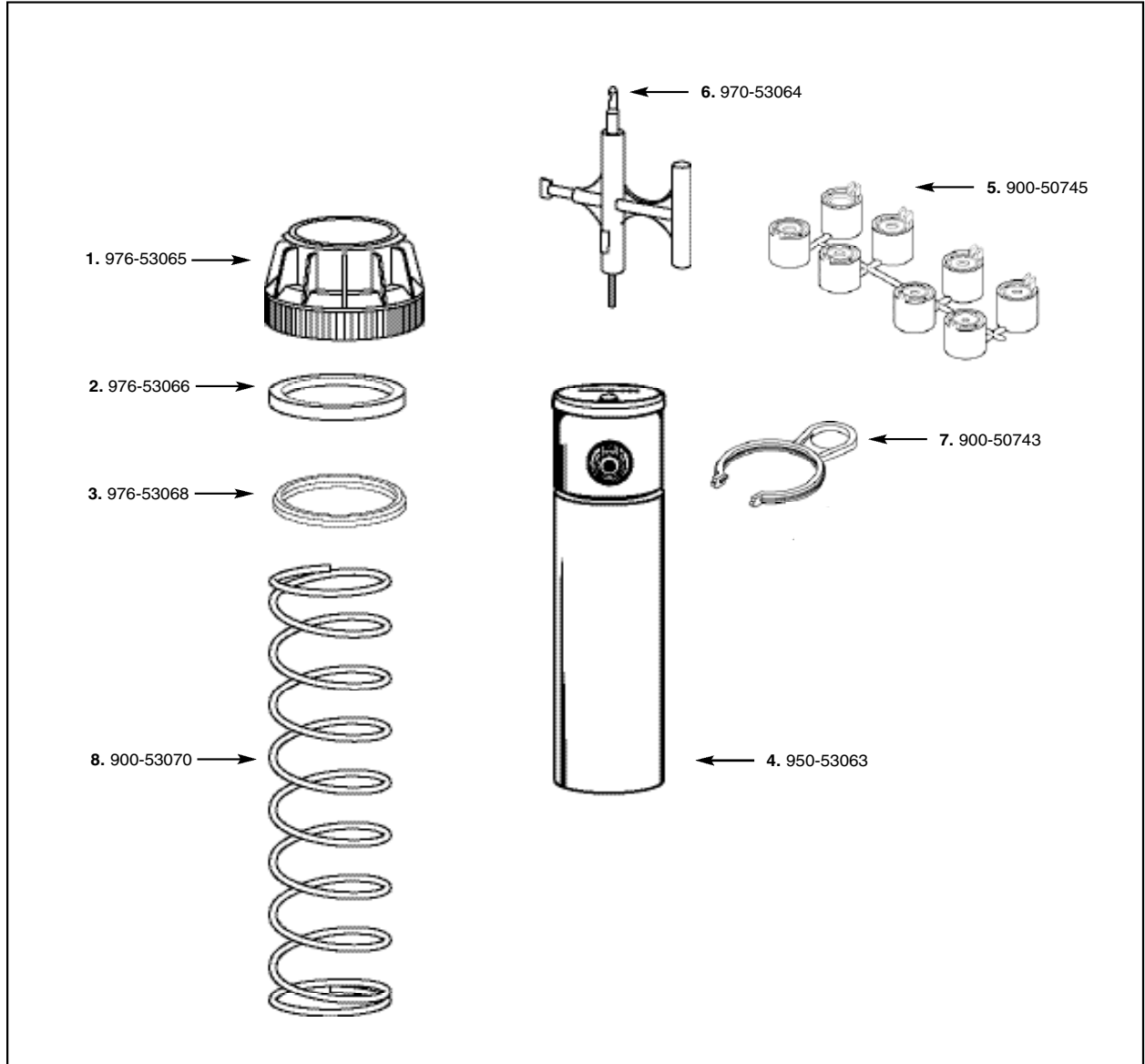


Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty.
900-52351	Locking Screw	1	1	900-51282	Nozzle Set (4) (5500, 5501, 5512)	11	1
976-52946	5500, 6000 and 6500 Series Protective Cap-Bayonet Style	2	1	900-51214	Nozzle Set - Low Angle (8) (6000, 6001, 6005, 6012)	11	1
77356	Click-Set® Disc	3	1	900-51215	Nozzle Set (4) (6500, 6503, 6505)	11	1
77357	Nozzle diffuser screw (bag of 10)	4	1	900-50743	Piston Retaining Clamp	12	1
900-50702	Pop-Up Cap W/Seal	5	1	900-50708	Body Canister (5500, 6000, 6002)	13	1
900-51799	Retraction Spring (5500, 6000)	6	1	900-51201	Body Canister (5512, 6012)	13	1
900-50990	Retraction Spring (5505, 6002, 6005, 6500)	6	1	900-51480	Ribbed Body Canister (6500)	13	1
900-51197	Retraction Spring (5512, 6012)	6	1	900-50739	Riser Adapter Seal (5501-6001)	14	1
900-50737	Filter Screen	7	1	900-50738	Shrub Riser Adapter (5501-6001)	15	1
6099	Anti-Drain Valve (bag of 50)	8	1	800-53075	Drive Assembly (5500)	16	1
970-53064	Gear Drive All-In-One Wrench	10	1	800-53079	Drive Assembly (6000)	17	1
900-50745	Nozzle Set (8) (6000, 6001, 6005, 6012)	11	1	900-50705	Spring Retainer	18	1
				900-50704	5500, 6000 & 6500 series seal	19	1

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# NELSON. TURF

## Gear-Driven Sprinklers Rotor Pop-Up Models: 6100 Pro I Series



Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
976-53065	Cap	1	1	900-50745	Nozzle Set	5	1
976-53066	Seal	2	1	970-53064	Gear Drive All in One Tool	6	1
976-53068	Spring Retainer	3	1	900-50743	Piston Clamp	7	1
950-53063	Drive Assembly	4	1	900-53070	Spring	8	1

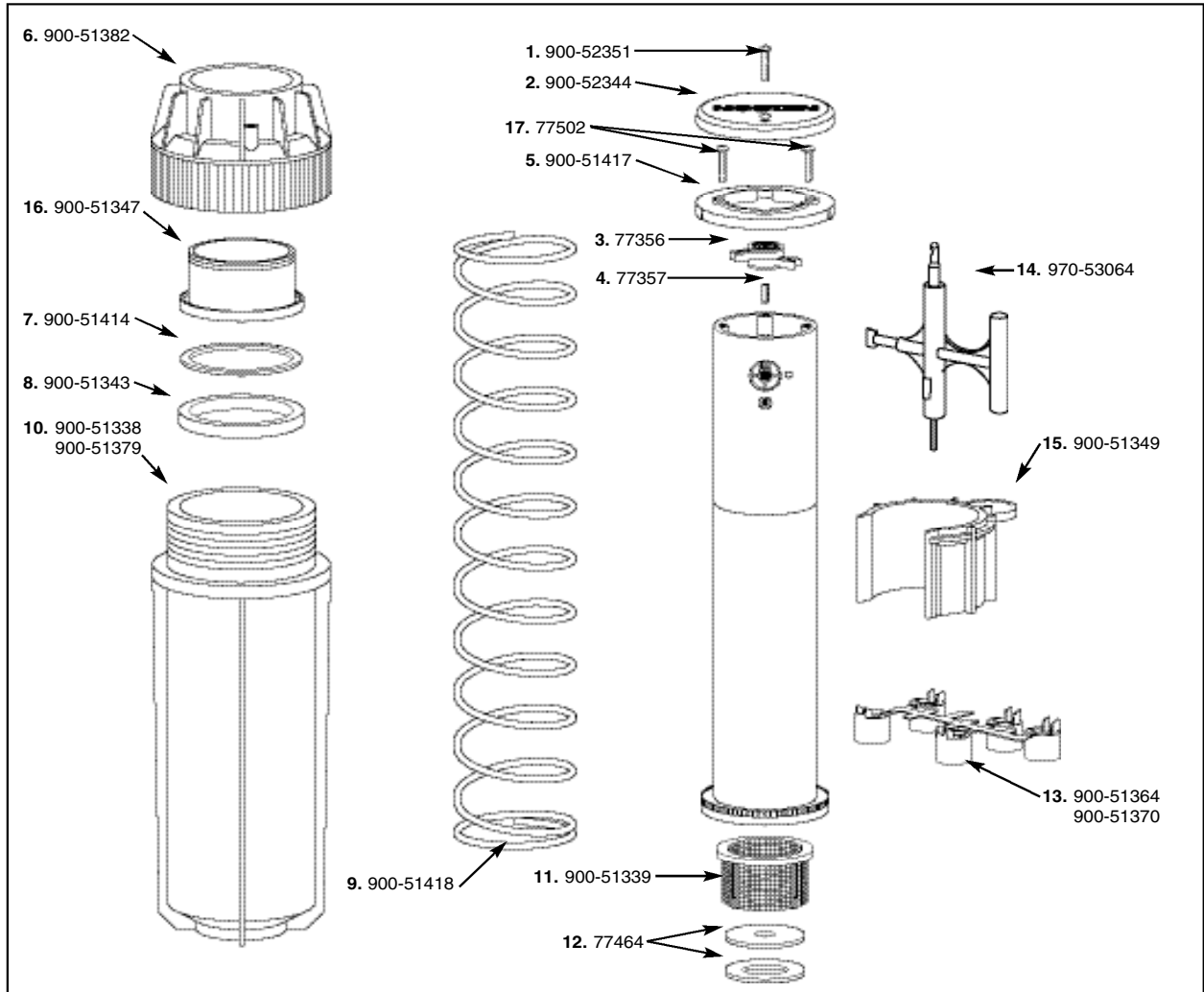
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# NELSON. TURF

## Gear-Driven Sprinklers

Models: 7000, 7005, 7500, 7503, (BSP Models 7010, 7015, 7510, 7513)

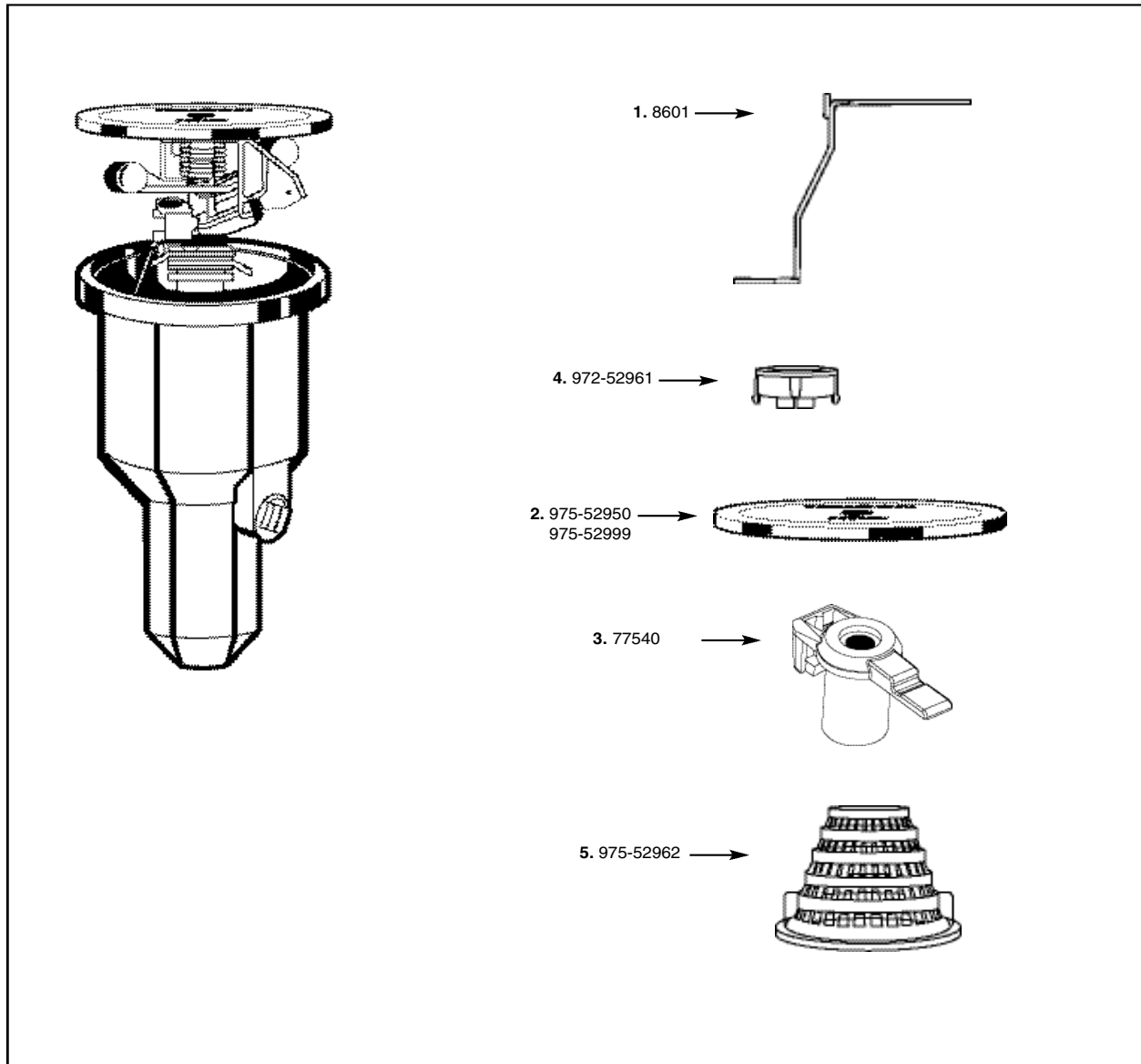


Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty.
900-52351	Locking Screw	1	1	900-51338	Case (7000, 7005, 7500, 7503)	10	1
900-52344	7000/7500 Protective Cap	2	1	900-51379	Case (7010, 7015, 7510)	10	1
77356	Click-Set® Disc	3	1	900-51339	Filter	11	1
77357	Nozzle diffuser screw (bag of 10)	4	1	77464	7000/7500 ADV Kit	12	1
900-51417	Plate (7000, 7005, 7010, 7015, 7500, 7503, 7510)	5	1	900-51364	Nozzle Tree (5) (7000, 7005, 7010, 7015)	13	1
900-51382	Cap & Seal	6	1	900-51370	Nozzle Tree (6) (7500, 7503, 7510)	13	1
900-51414	Spring Retainer, Washer	7	1	970-53064	Gear Drive All-In-One Tool	14	1
900-51343	Spring Retainer	8	1	900-51349	Piston Retaining Clamp	15	1
900-51418	Spring (7000/7500 Series)	9	1	900-51347	7000/7500 series seal	16	1
				77502	7000/7500 Plate screws	17	2

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# NELSON. TURF

## Impact Sprinklers Rotor Pop-Up Models: 6700 Pro Impact



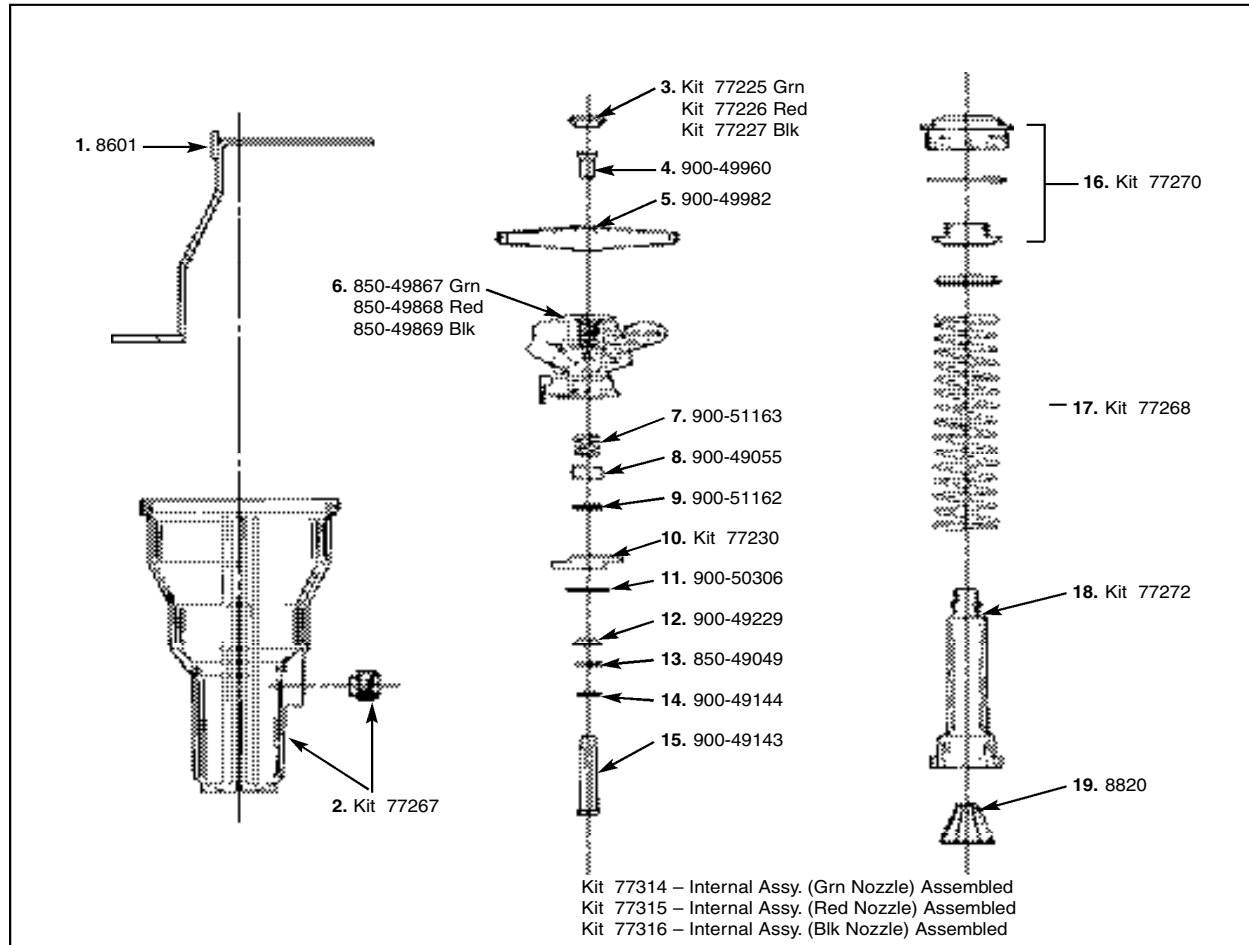
Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
8601	Wrench	1	1	77540	Nozzle Kit (Set of 8)	3	1
975-52950	Lid	2	1	975-52961	Nut	4	1
975-52999	Reclaimed Water Lid	2	1	975-52962	Filter	5	1

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# NELSON TURF

## Impact Sprinklers

### Rotor Pop-Up Models: 6702, 6703, 6704



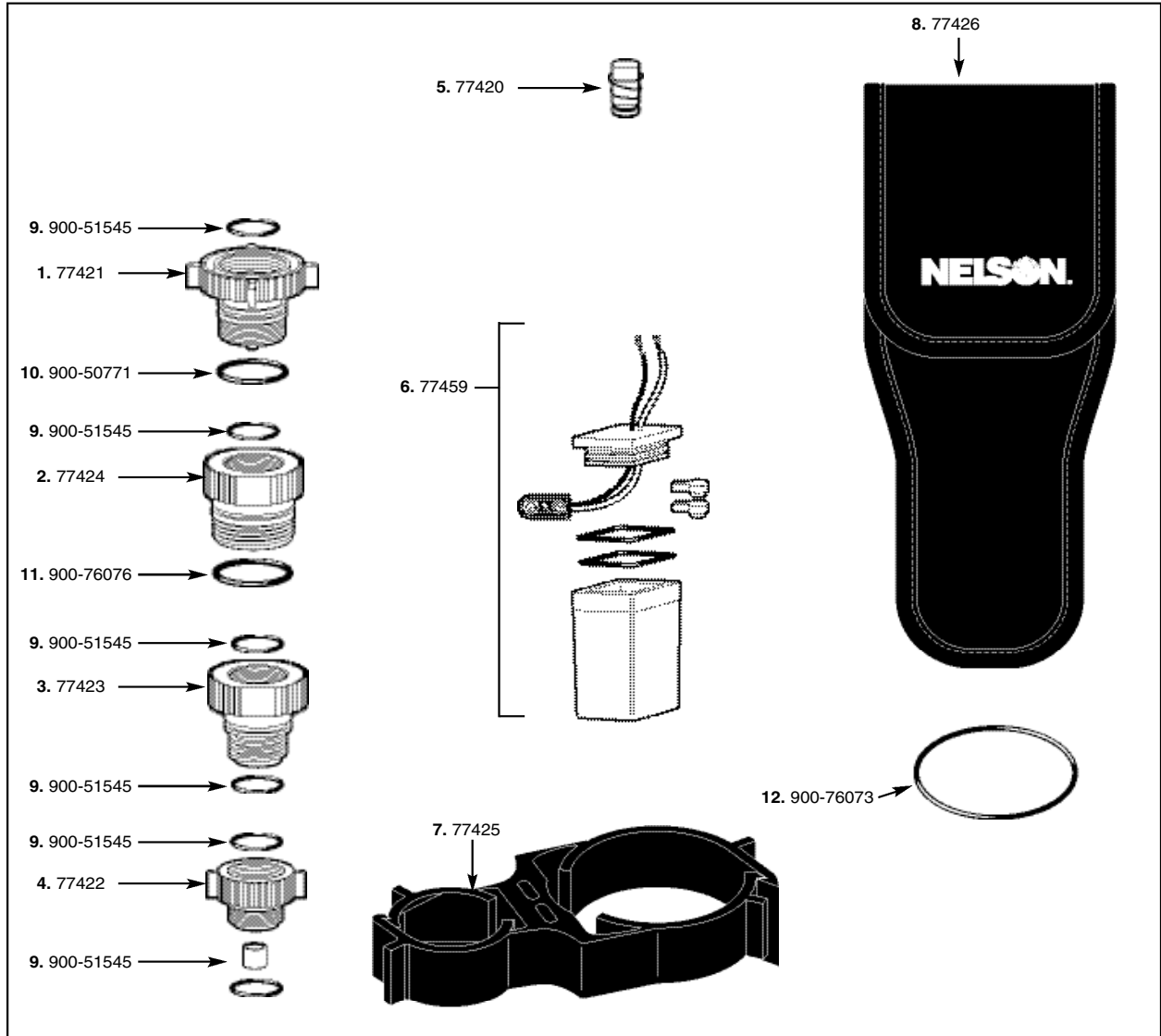
Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
8601	Wrench	1	1	900-50306	Washer	11	6
77267	Housing W/Plug	2	1	900-49229	White Shoulder Washer	12	1
77225	Plug (Grn)	3	6	850-49049	Black Rubber Washer	13	1
77226	Plug (Red)	3	6	900-49144	White Rubber Washer	14	1
77227	Plug (Blk)	3	6	900-49143	Bearing Spindle	15	1
900-49960	Nut	4	1	77270	Retainer Nut,O-Ring Kit, Seal Kit	16	1
900-49982	Lid	5	1	77268	Ret./Spring Kit	17	1
850-49867	Head Assy. (Grn)	6	1	77272	Piston Kit	18	2
850-49868	Head Assy. (Red)	6	1	8820	Anti Drain Valve/Filter Screen Assy.	19	1
850-49869	Head Assy. (Black)	6	1	77314	Internal Assy. (Grn)	6-19 Assembled	
900-51163	Spring	7	1	77315	Internal Assy. (Red)	6-19 Assembled	
900-49055	Spring Hood	8	1	77316	Internal Assy (Blk)	6-19 Assembled	
900-51162	Washer	9	1				
77230	Trip Collar Kit	10	2				

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# NELSON. TURF

SoloRain®

Models: 8010, 8030, 8050 Series, 8070 Series



Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
77421	Nelson Adapter Assembly Kit	1	1	77425	Mounting Clip for PG	7	1
77424	RB Adapter Assembly Kit	2	1	77426	Vinyl Jacket	8	1
77423	TO Adapter Assembly Kit	3	1	900-51545	O-Ring	9	1
77422	HD Adapter Assembly Kit	4	1	900-50771	O-Ring	10	1
77420	Plunger Assembly Kit	5	1	900-76076	O-Ring	11	1
77459	8010/8030 Battery case and cover replacement kit	6	1	900-76073	O-Ring	12	1

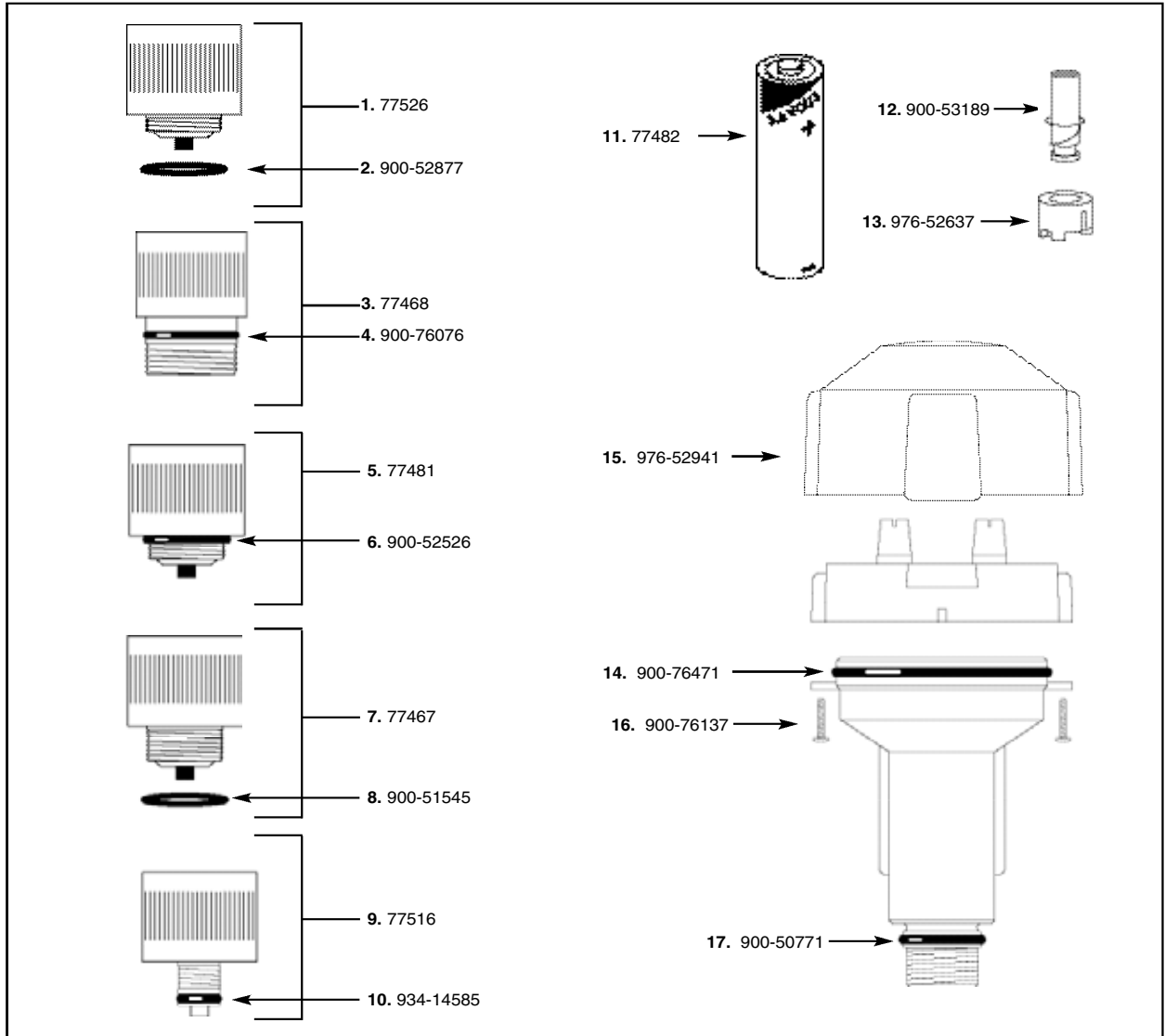
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# NELSON TURF

## SoloRain

Models: 8014, 8015, 8015E, 8014SR



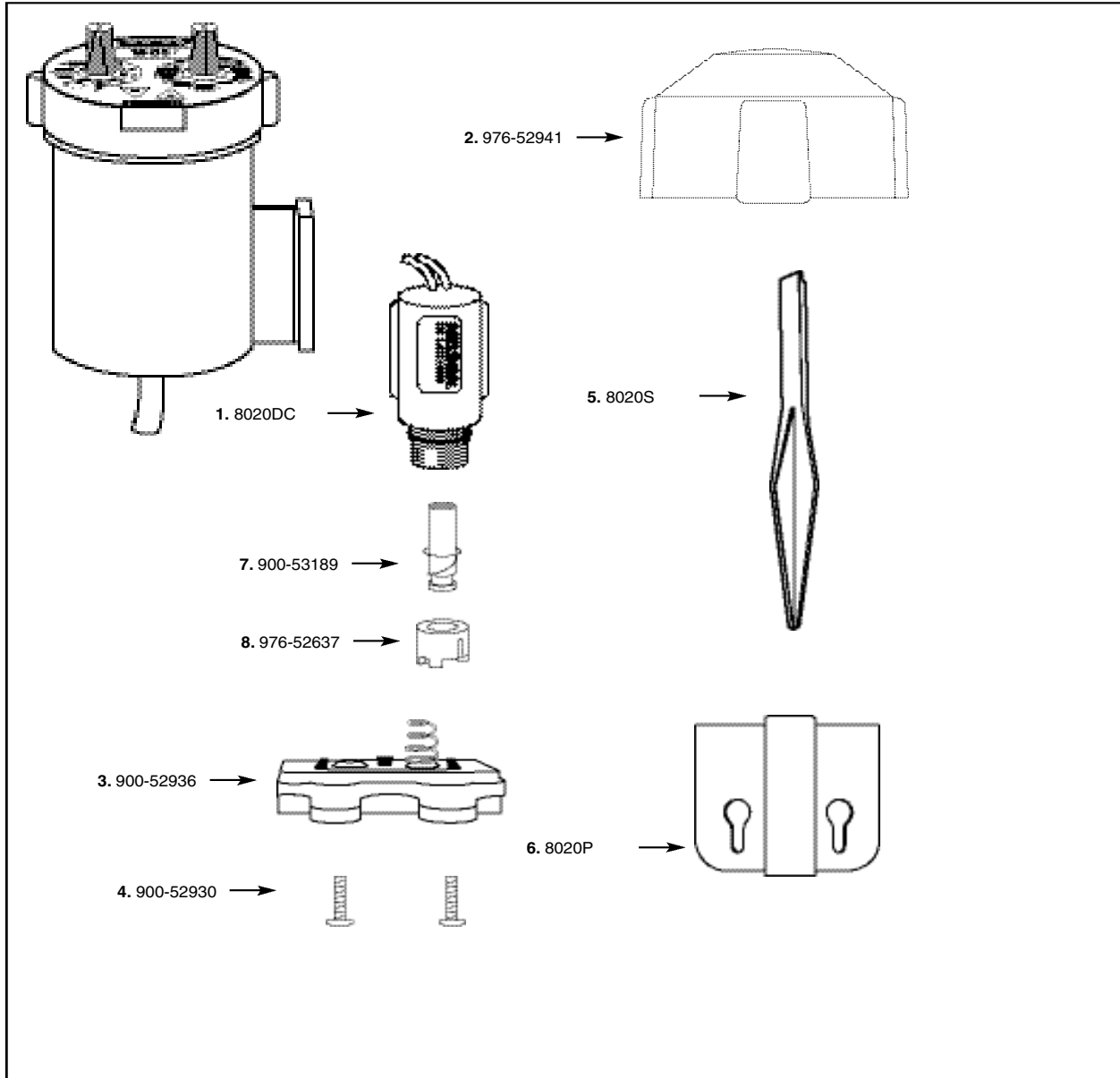
Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
77526	Toro Adapter Assembly Kit	1	1	77482	3.6V Lithium battery Kit	11	1
900-52877	Toro adapter o-ring	2	1		(Also includes O-Ring & Gasket)		
77468	Rainbird Adapter Assembly Kit	3	1	900-53189	Plunger with spring	12	1
900-76076	Rainbird adapter o-ring	4	1	976-52637	Plunger retainer	13	1
77481	Weathermatic Adapter Assembly Kit	5	1	900-76471	Body o-ring	14	1
900-52526	Weathermatic Adapter o-ring	6	1	976-52941	Protective Cover	15	1
77467	Irritrol Adapter Assembly Kit	7	1	900-76137	Body screws	16	4
900-51545	Irritrol Adapter o-ring	8	1	900-50771	O-ring	17	1
77516	Hunter Adapter Assembly Kit	9	1				
934-14585	Hunter Adapter o-ring	10	1				

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# NELSON. TURF

SoloRain  
Models: 8020

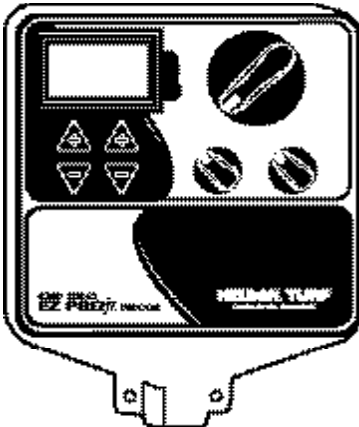


Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
8020DC	DC Latching Solenoid	1	1	8020S	Mounting Stake	5	1
976-52941	Protective Cover	2	1	8020P	Mounting Plate	6	1
900-52936	Battery Cover	3	1	900-53189	Plunger with spring	7	1
900-52930	Battery Screws	4	1	976-52637	Plunger retainer	8	1

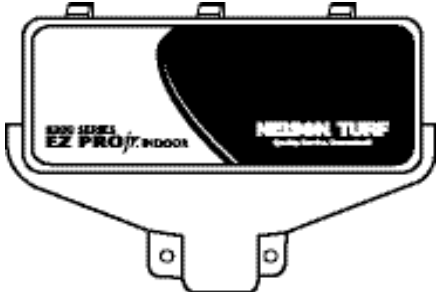
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# NELSON TURF

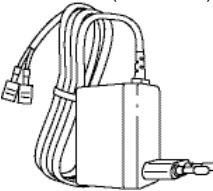
## EZ Pro™ Jr. Indoor Irrigation Controller



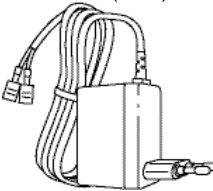
1. 976-53243



2. 976-76557  
(230V Intrn'l)



3. 976-76556  
(120V)

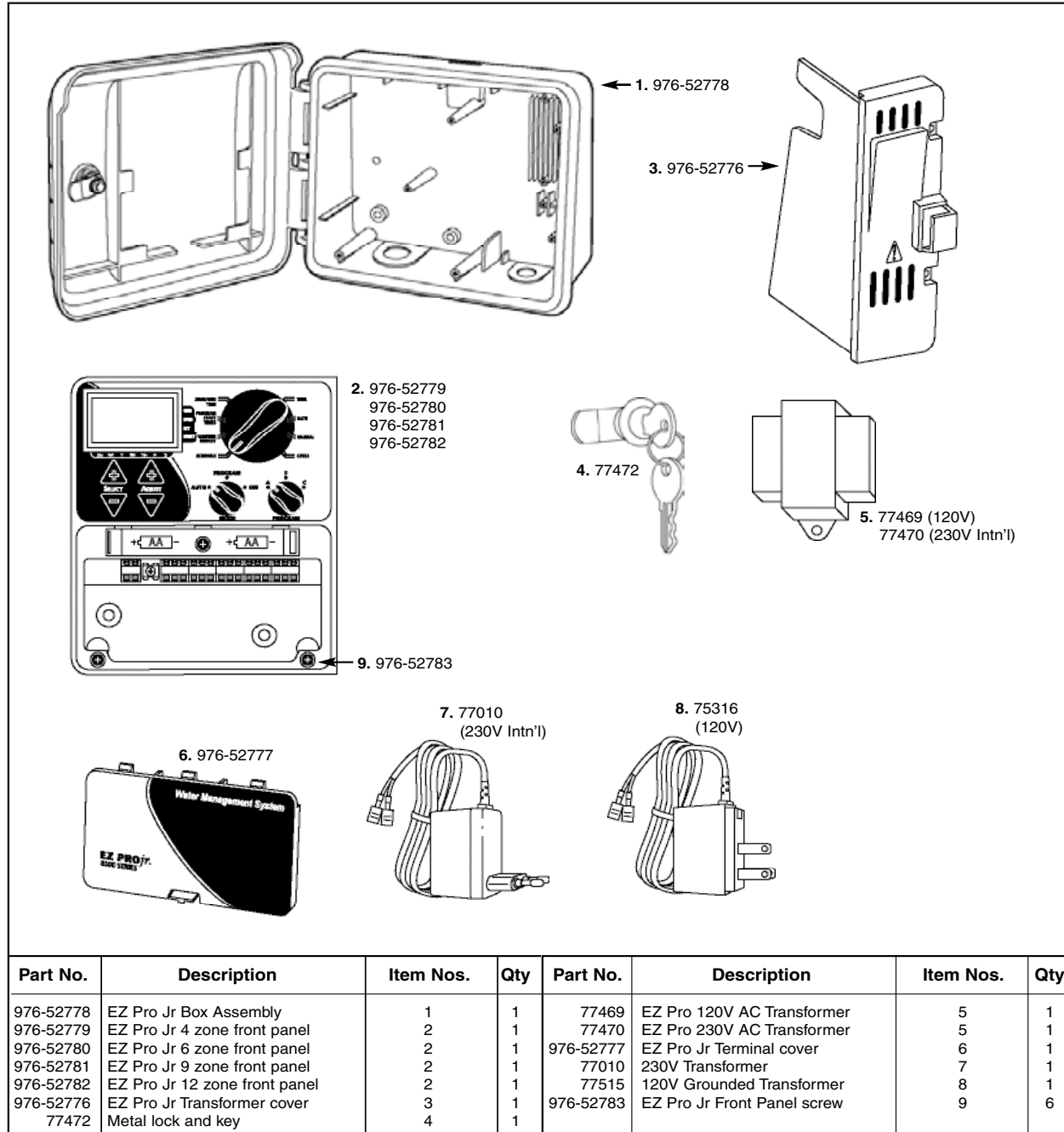


Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
976-53243	EZ Pro Jr. Indoor Terminal Cover	1	1	976-76556	120V Grounded Transformer	3	1
976-76557	230V Transformer	2	1				

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# NELSON TURF

## EZ Pro™ Jr. Irrigation Controller

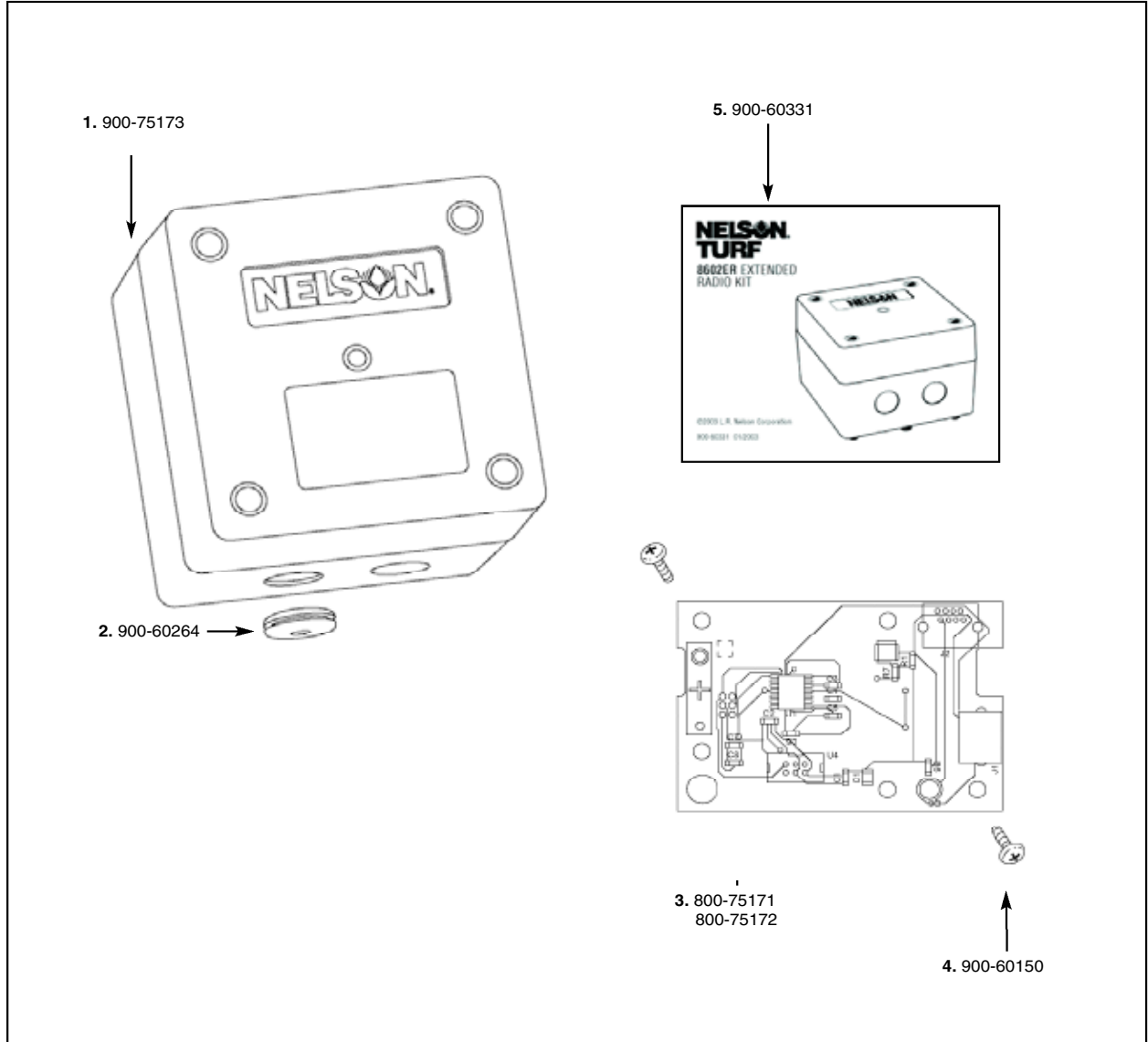


Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
976-52778	EZ Pro Jr Box Assembly	1	1	77469	EZ Pro 120V AC Transformer	5	1
976-52779	EZ Pro Jr 4 zone front panel	2	1	77470	EZ Pro 230V AC Transformer	5	1
976-52780	EZ Pro Jr 6 zone front panel	2	1	976-52777	EZ Pro Jr Terminal cover	6	1
976-52781	EZ Pro Jr 9 zone front panel	2	1	77010	230V Transformer	7	1
976-52782	EZ Pro Jr 12 zone front panel	2	1	77515	120V Grounded Transformer	8	1
976-52776	EZ Pro Jr Transformer cover	3	1	976-52783	EZ Pro Jr Front Panel screw	9	6
77472	Metal lock and key	4	1				

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# NELSON. TURF

## Controllers Models: 8602ER



Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
900-75173	Box Assembly	1	1	900-60150	Screws	4	2
900-60264	Grommet	2	1	900-60331	Instruction manual	5	1
800-75171	Remote Box PCB Assembly	3	1				
800-75172	Base PCB Assembly	3	1				

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# NELSON TURF

## EZ Pro™ Irrigation Controller EZ Command™ Remote Programmer

1. 77473, EZ Pro Front Panel  
NOTE: Adapts to any 4 thru 24 zone interconnect board

2. 77474, EZ Pro 4 Zone Interconnect Board  
77475, EZ Pro 6 Zone Interconnect Board  
77476, EZ Pro 8 Zone Interconnect Board  
77477, EZ Pro 12 Zone Interconnect Board  
77478, EZ Pro 16 Zone Interconnect Board  
77479, EZ Pro 20 Zone Interconnect Board  
77480, EZ Pro 24 Zone Interconnect Board

3. 77472

4. 77469 (120V)  
77470 (230V Intr'l)

5. 950-52531

6. 900-76299

7. 900-76300

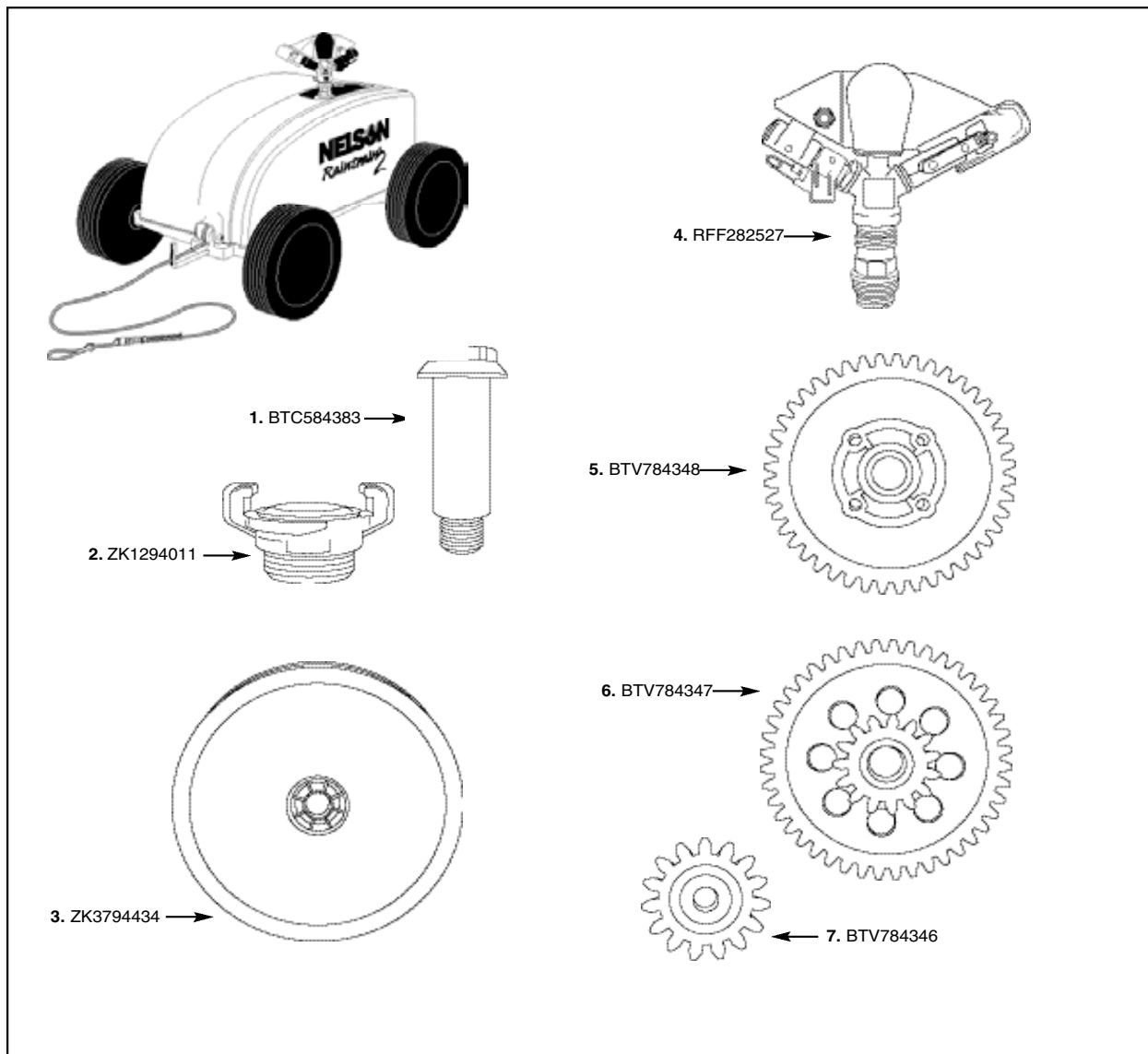
8. 900-60150

Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
77473	EZ Pro front panel	1	1	77480	EZ Pro 24 Zone Interconnect Board	2	1
77474	EZ Pro 4 Zone Interconnect Board	2	1	77472	Metal lock and key	3	1
77475	EZ Pro 6 Zone Interconnect Board	2	1	77469	EZ Pro 120V AC Transformer	4	1
77476	EZ Pro 8 Zone Interconnect Board	2	1	77470	EZ Pro 230V AC Transformer	4	1
77477	EZ Pro 12 Zone Interconnect Board	2	1	950-52531	EZ Pro Box Assembly	5	1
77478	EZ Pro 16 Zone Interconnect Board	2	1	900-76299	Bottom Housing	6	1
77479	EZ Pro 20 Zone Interconnect Board	2	1	900-76300	Battery Cover	7	1
				900-60150	Screws	8	1

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# NELSON TURF

## Raintrain 2 8402



Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
BTC584383	Screw Axle	1	1	BTV784348	8402 Gear 3	5	1
ZK1294011	8402 R 1" MT Geka	2	1	BTV784347	8402 Gear 2	6	1
ZK3794434	Plastic Wheel	3	1	BTV784346	8402 Gear 1	7	1
RFF282527	8402 ZE 30W-7.0MM	4	1				

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# NELSON TURF

## 8401 Rain Train® Turf Traveler Operating Instructions – Series E/G/H



### Operating Instructions Rain Train 400 Series “E”, “G”, “H”

#### To Set:

- (1) Determine the starting and stopping locations of the Rain Train such that the cable will lay in a straight line along the required travel path for the coverage desired. Be sure that the hose length will reach to both locations and that there are no obstacles to interfere with the required movement of the hose. The maximum travel distance is obtainable when the water supply outlet is near the center of the length of area to be sprinkled.
- (2) Connect hose to water supply and lay it out to the travel path and then along the side of the travel path back to the starting location of the Rain Train.
- (3) Place the Rain Train in the starting location and connect to end of hose.
- (4) Push in on the “ON-OFF Bumper” to close the shut-off valve.
- (5) Pull out on the “Drum Release Knob” (located on the right side of the cable drum) and turn slightly to hold release.
- (6) Unwind the cable from the drum and lay cable along the travel path by walking with the cable tow handle to the stopping location. Be sure the stopping location is not beyond the point that the hose length will reach.
- (7) Put the long end of the stake through the ring end of the cable tow handle and push the stake into the ground to the depth of the foot bar on the stake. The short end of the stake should be toward the direction of pull.

#### To Start Operation:

- (1) Turn on the water at the hose supply outlet.
- (2) Turn the “Drum Release Knob” to engage pin into the drive wheel.
- (3) Turn the “Drum Hand Crank” until lock plunger engages in the drum.
- (4) Rewind any slack cable onto the drum with the “Drum Hand Crank”.
- (5) Hold the sprinkler arm and stand aside of the discharge stream.
- (6) Turn on by pulling out the “ON-OFF” Bumper.

#### To Stop Operation:

- (1) The Rain Train is automatically shut off at the end of travel by the stake depressing the “ON-OFF Bumper” to close the valve.
- (2) To manually stop at any time, push in on the “ON-OFF Bumper”.

### Adjustments

#### Travel Rate:

Turn the “Speed Control Valve” (#26871) (located to the left side of the shut-off valve) out (counterclockwise) to increase speed, and in (clockwise) to decrease speed.

#### Drum Friction:

If the drum turns too freely, allowing the cable to slack as it is payed from the drum, tighten the “Drum Friction-Adjusting Screw” (#25604) to increase the spring force on the friction plunger against the drum.

#### Pawl Engagement:

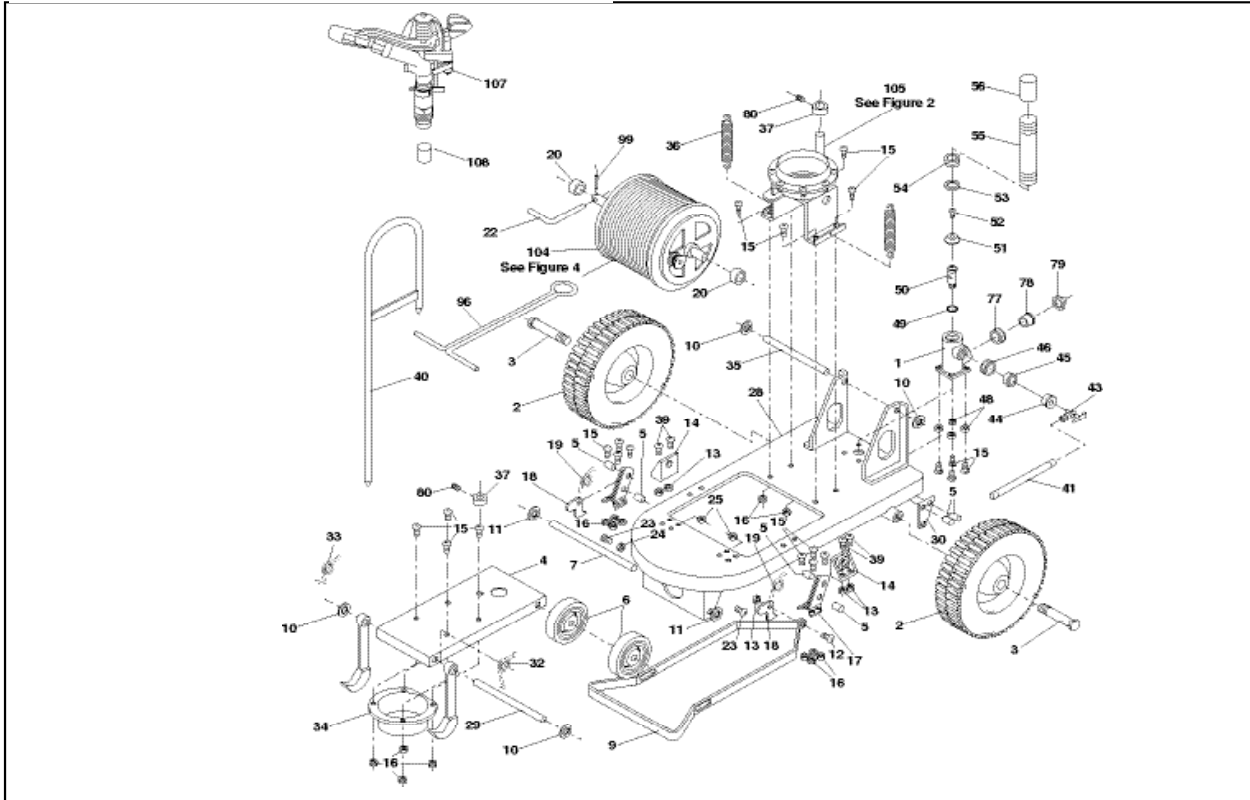
The “Pawl Engagement Adjusting Collars” (#49271) located on the control shaft (#26724) determine the travel distance of the driving pawls. This is factory set to engage three notches and will seldom need adjustment. If the pawls become worn and an adjustment is needed, simply loosen the set screw and position the adjusting collars such that the pawls will properly engage three teeth per cycle. Be sure the lower adjusting collar is positioned high enough on the control shaft so that as the lid is returned to horizontal position it contacts the adjusting collar thus causing the valve to trip just before the lid comes to rest against the upper diaphragm support (#25894).

If the bottom collar is moved the top adjusting collar must also be adjusted. While the unit is operating under load (pressure with hand can be applied to crank handle of the cable drum) check for engagement of the pawls (#25441) so that they engage not more than three teeth on the drive wheels (#25571 and #25581).

The top collar must not allow the lid to raise higher than to allow the diaphragm to be exposed more than 1/4" to 1/2" above upper diaphragm support (#25894) edge and piston cup (#25484), when viewed from the front of the unit and with the diaphragm completely filled. If it is allowed to go higher the diaphragm may rupture prematurely. Even if the pawls will not engage three teeth on the drive wheels do not allow the lid to go higher than stated above.

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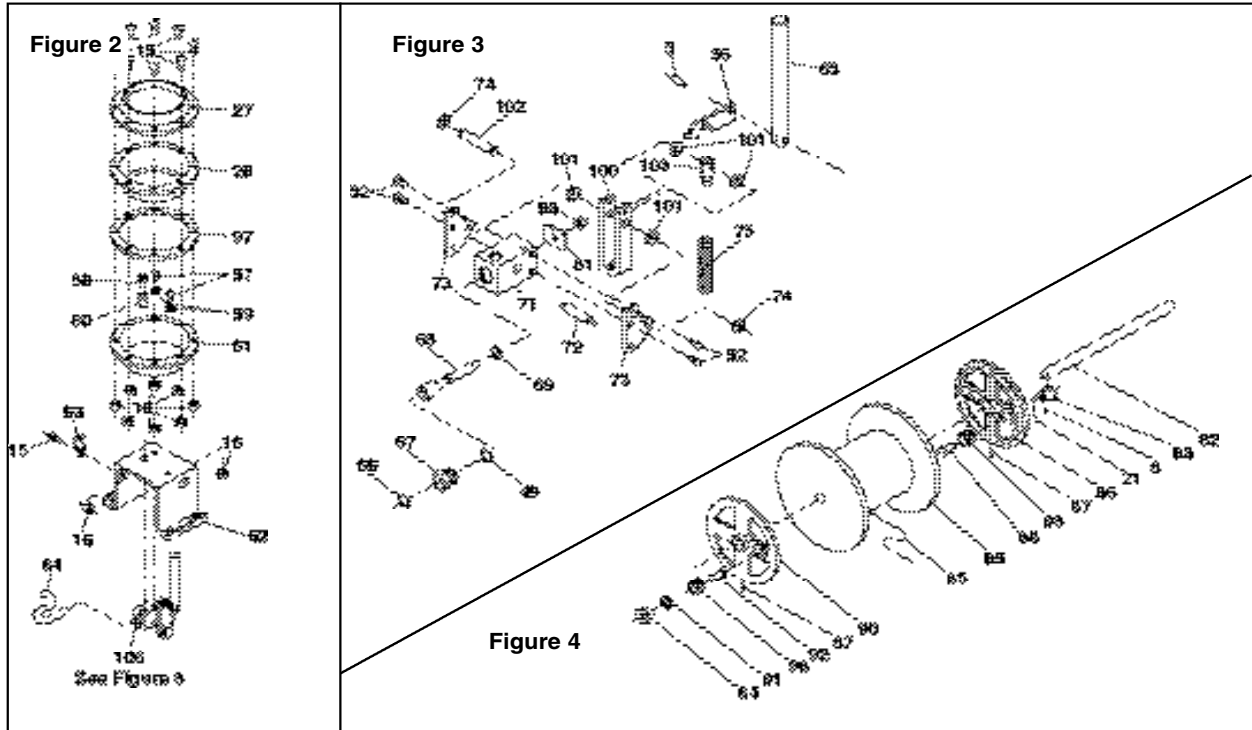


Item No.	Description	Part No.	Qty	Item No.	Description	Part No.	Qty
1	Shut-Off Valve Body	934-27131	1	36	Lid Return Spring	935-25904	2
2	Rear Wheel	935-25715	2	37	Adjusting Collar	900-49271	2
3	Rear Axle Bolt	931-25724	2	39	Screw	945-27144	4
4	Lid	800-51410	1	40	Stake	943-25964	1
5	Roll Pin	935-26994	6	41	Hose Assembly	480-49075	1
6	Front Wheel	950-25685	2	43	Speed Control	935-26871	1
7	Axle (Front Wheel)	941-26784	1	44	Male End	911-27061	1
9	Bumper	800-26674	1	45	Shank	911-40441	1
10	Pushnut	945-26884	2	46	K-Nut	900-37110	1
11	Pushnut	945-43284	2	48	Lock Washer	935-26914	4
12	Bolt	945-26144	1	49	O-Ring	934-20825	1
13	Locknut	945-26044	5	50	Valve Stem	931-26751	1
14	Drum Support Bracket	942-25834	2	51	Stem Cap	931-26761	1
15	Screw	945-25464	16	52	Retainer Screw	935-30314	4
16	Nut	945-25474	12	53	Washer	934-26855	1
17	Anti-Reverse Bracket	942-25794	2	54	Washer Retainer	911-27051	1
18	Anti-Reverse Dog	942-25814	2	55	Riser	800-51408	1
19	Dog Spring	935-26174	2	56	Riser Coupling	800-51409	1
20	Drive Wheel Spacer	941-25824	2	77	Nut	911-00611	1
22	Crank	942-25844	1	78	Valve Shank	911-25411	1
23	Cam Screw	935-41684	2	79	1" Filter Washer	935-26069	1
24	Washer	979-26832	2	80	Set Screw	900-49272	2
25	Locknut	935-26964	2	96	Tow Handle	943-26284	1
28	Frame	800-51407	1	99	Pin	945-26244	1
29	Lid Axle (Front)	941-26774	1	104	Drum and Cable Assembly	480-25510	1
30	Shut-Off Valve Link	942-26684	1	105	Diaphragm Support		
32	Pawl Spring (Left)	935-26154	1		Bracket Assembly	850-27240	1
33	Pawl Spring (Right)	935-26164	1	107	Replacement Head	RFF282527	
34	Piston Cup	942-25484	1	108	Adapter for Impact Head	976-53105	
35	Lid Axle (Rear)	941-26794	1				

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# NELSON TURF

## Rain Train® Turf Traveler Model: 8401



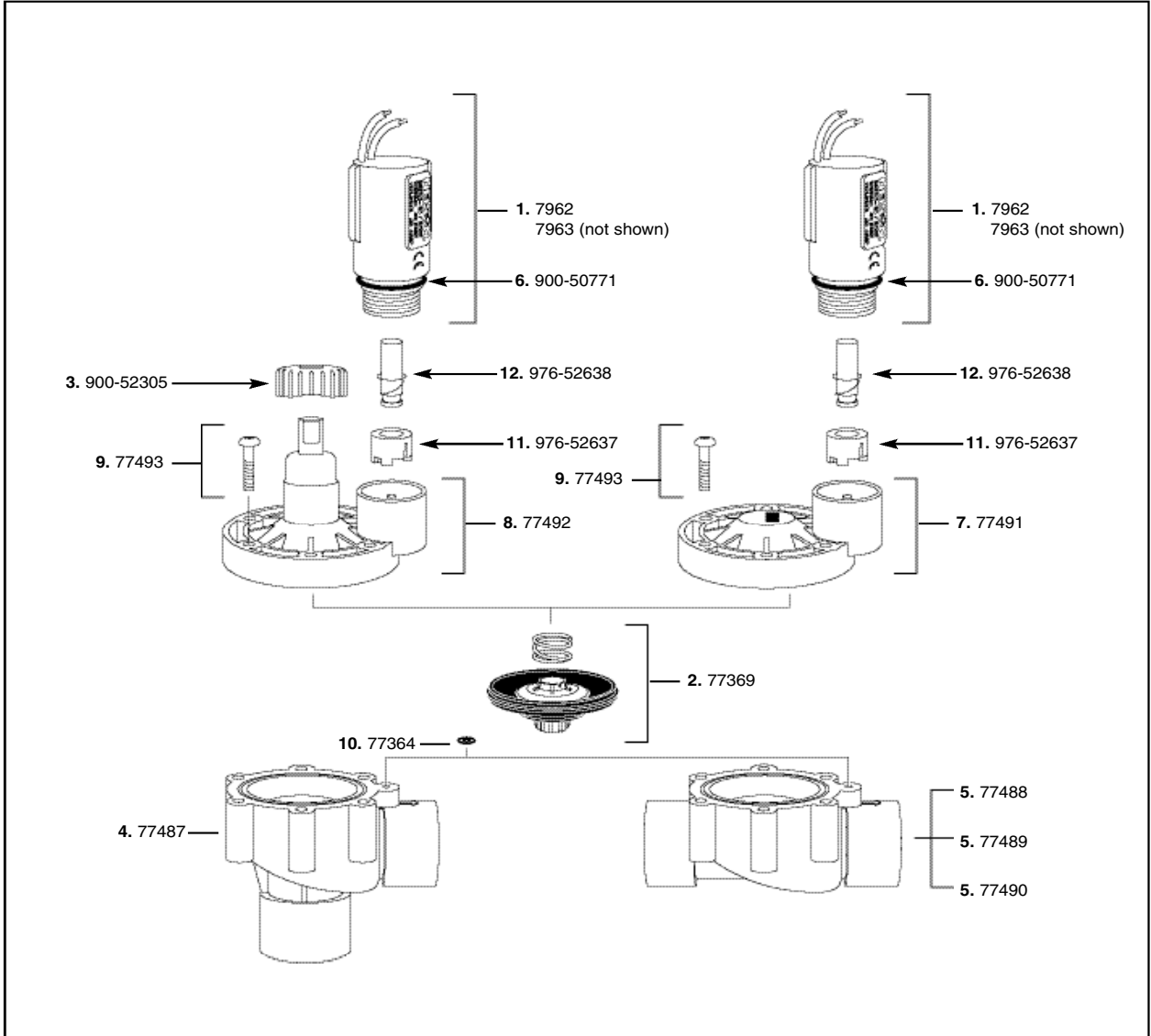
Item No.	Description	Part No.	Qty	Item No.	Description	Part No.	Qty
5	Roll Pin	935-26994	2	73	Side Plate	932-26614	2
8	Pin	945-26254	1	74	E Ring	935-26984	2
15	Screw	945-25464	16	75	Trip Spring W/Washer	850-27330	1
16	Nut	945-25474	12	81	Trip Plate	932-26604	1
21	Pin	945-25664	1	82	Drum Axle*	941-25564	1
26	Diaphragm	932-25885	1	83	Knob	941-26264	1
27	Upper Diaphragm Support	942-25894	1	84	Friction Adj. Screw	941-25604	1
49	O-Ring	934-20825	1	85	Cable	935-25649	1
52	Retainer Screw	935-30314	4	86	Drive Wheel (Right)	934-25571	1
56	Stop Arm	480-26620	1	87	Pin*	945-26534	2
57	Screw	935-26904	2	88	Lock Plunger	931-26274	1
58	Diaphragm Screw	931-26694	1	89	Drum	942-25524	1
59	Rolled Washer	979-26802	2	90	Drive Wheel (Left)*	934-25581	1
60	Headed Sleeve	979-26812	1	91	Lock Nut	941-25614	1
61	Lower Diaphragm Support	942-26594	1	92	Friction Plunger	979-25591	1
62	Diaphragm Support Brkt.	800-51396	1	93	Lock Nut	935-26944	1
63	Tube Clamp	945-27004	1	97	Gasket	932-26316	1
64	Exhaust Tube Assembly	850-27260	1	98	Compression Spring	935-26304	2
65	Control Shaft	931-26724	1	100	Trip Arm	480-27170	1
66	O-Ring	934-14585	1	101	Spacer Washer	979-26822	4
67	End Plug	911-27041	1	102	Pin	931-26744	1
68	Valve Stem Assembly	480-27160	1	103	Spring Arm	480-27180	1
69	O-Ring	934-34945	1	106	Tripping Valve Assembly	850-27250	1
71	Valve Body (Tripping)	931-27101	1				
72	Stop Pin	931-26714	1				

\* The drum axle (#25564) and the left drive wheel (#25581) require drilling of a 3/16" hole after assembly for insertion of the pin (#26534).

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# NELSON TURF

## 1" PVC Electric Valve Model 9001, 9002, 9005, 9011, 9012, 9015 (BSP Models 9003, 9013)



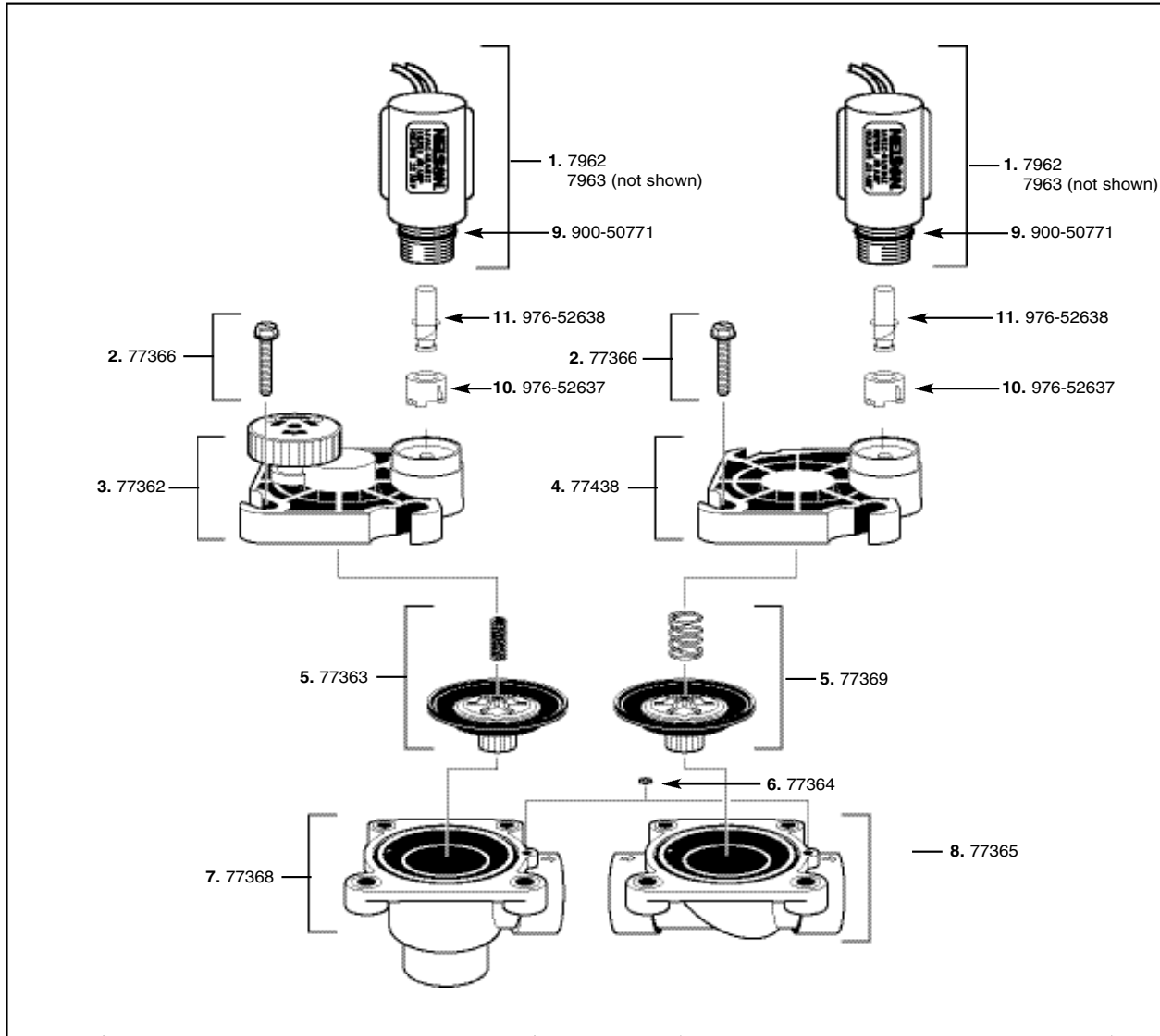
Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
7962	Solenoid (Standard 24V)	1	1	900-50771	O-Ring	6	1
7963	Solenoid (115V)	1	1	77491	9000 Valve Bonnet	7	1
77369	Diaphragm Assembly	2	1	77492	9000 Valve bonnet with F/C stem	8	1
900-52305	F/C Knob	3	1	77493	9000 Valve self-tapping screws	9	6
77487	9000 Valve NPT angle body	4	1	77364	Body O-ring	10	1
77488	9000 Valve Slip body	5	1	976-52637	7962 Plunger retainer	11	1
77489	9000 Valve NPT body	5	1	976-52638	7962 Plunger with spring	12	1
77490	9000 Valve BSP body	5	1				

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# NELSON TURF

## 1" Heavy Duty Electric Valves Models 7901, 7911, 7931, 7941 (BSP Models 7916, 7917)



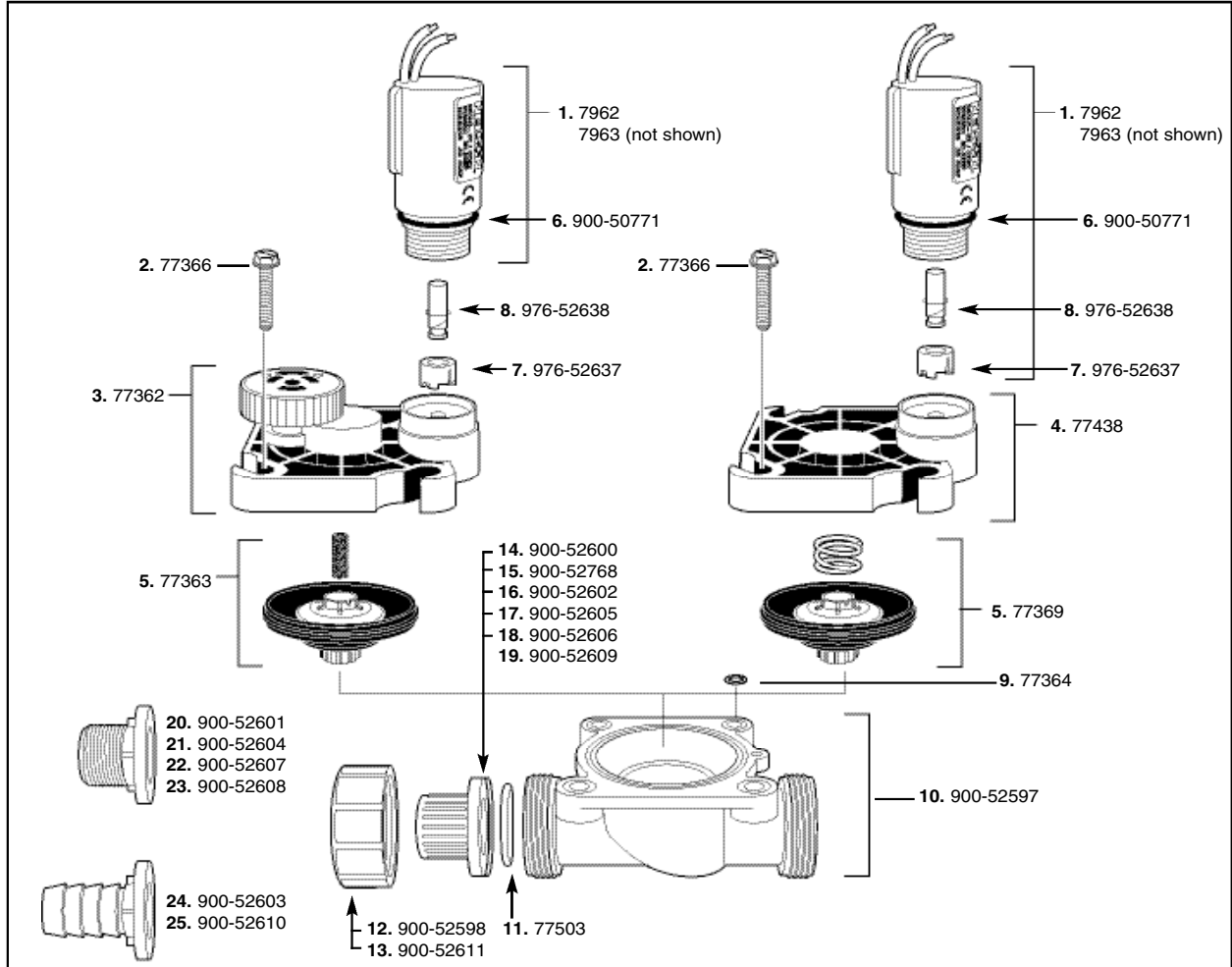
Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
7962	Solenoid (Standard 24V)	1	1	77363	Diaphragm & Spring (7911, 7917, 7931)	5	1
7963	Solenoid (115V) & Bleed Collar	1	1	77369	Diaphragm & Spring (7901, 7916, 7941)	5	1
77366	Bolts (bag of 4)	2	1	77364	Body O-Ring	6	1
77362	Bonnet Assembly	3	1	77368	1" Angle Body	7	1
77438	Non-Bonnet Assembly	4	1	77365	1" Globe Body	8	1
				900-50771	O-ring	9	1
				976-52637	7962 Plunger retainer	10	1
				976-52638	7962 Plunger with spring	11	1

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# NELSON TURF

## 1" Heavy Duty Electric Valve Model 9501 Series

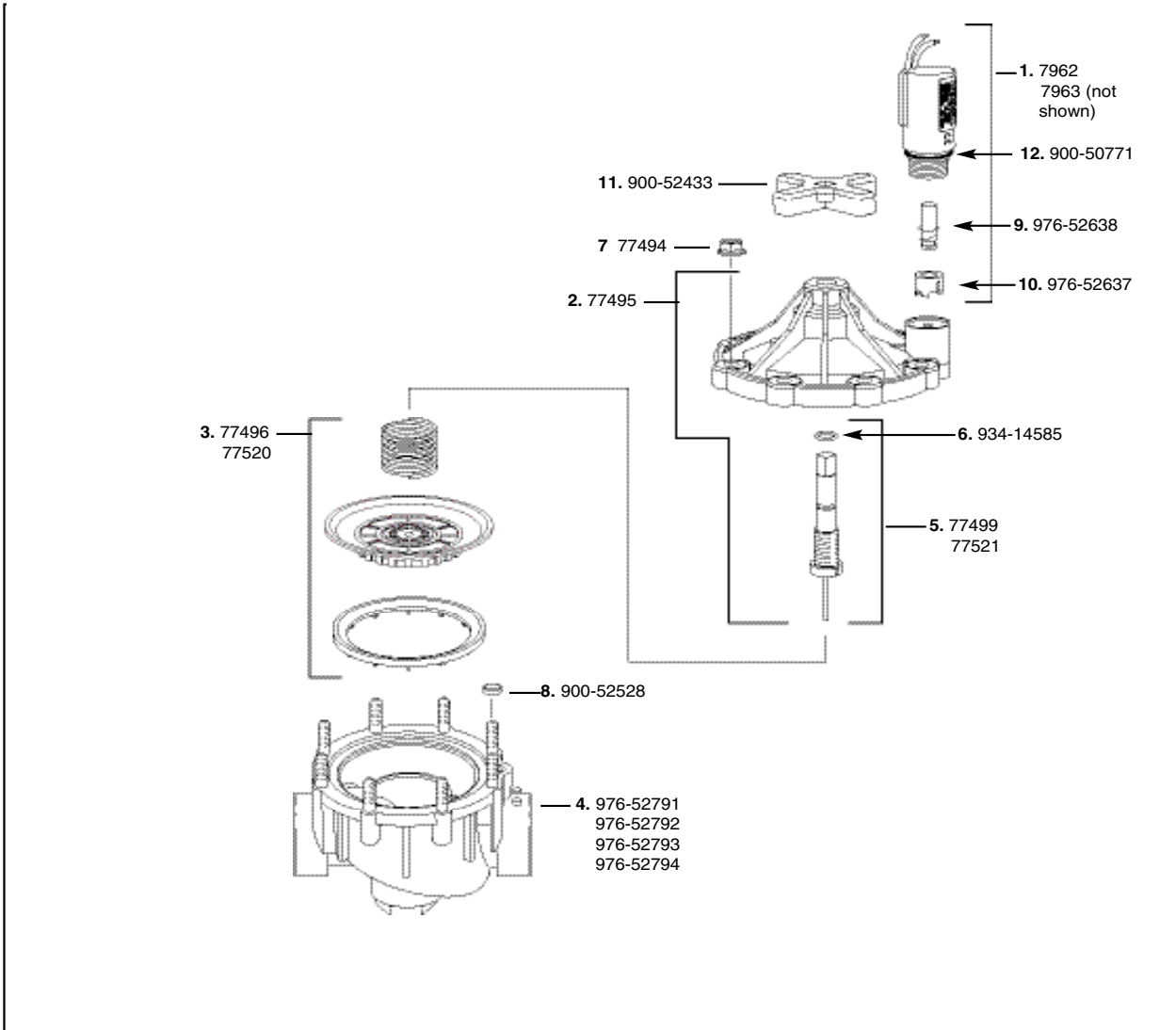


Part No.	Description	Qty	Part No.	Description	Item Nos.	Qty
7962	Solenoid (Standard 24V)	1	900-52598	Coupling Nut	12	1
7963	Solenoid (115V) & Bleed Collar	1	900-52611	Lavender Coupling Nut	13	1
77366	Bolts (bag of 4) & Bleed Collar	2	900-52600	3/4" NPT female fitting	14	1
77362	Bonnet Assembly	3	900-52768	3/4" BSP female fitting	15	1
77438	Non-Bonnet Assembly	4	900-52602	3/4" Slip female fitting	16	1
77363	Diaphragm & Spring	5	900-52605	1" NPT female fitting	17	1
77369	Diaphragm & Spring	5	900-52606	1" BSP female fitting	18	1
900-50771	O-ring	6	900-52609	1" Slip fitting	19	1
976-52637	Plunger retainer	7	900-52601	3/4" BSP male fitting	20	1
976-52638	Plunger with spring	8	900-52604	3/4" NPT male fitting	21	1
77364	Body O-ring	9	900-52607	1" BSP male fitting	22	1
900-52597	Union Globe Body	10	900-52608	1" NPT male fitting	23	1
77503	Valve, Large O-ring	11	900-52603	3/4" Barb fitting	24	1
			900-52610	1" Barb fitting	25	1

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# NELSON TURF

## 1 1/2" & 2" Heavy Duty Electric Valves Model 9515/9520 Conventional Valve Series

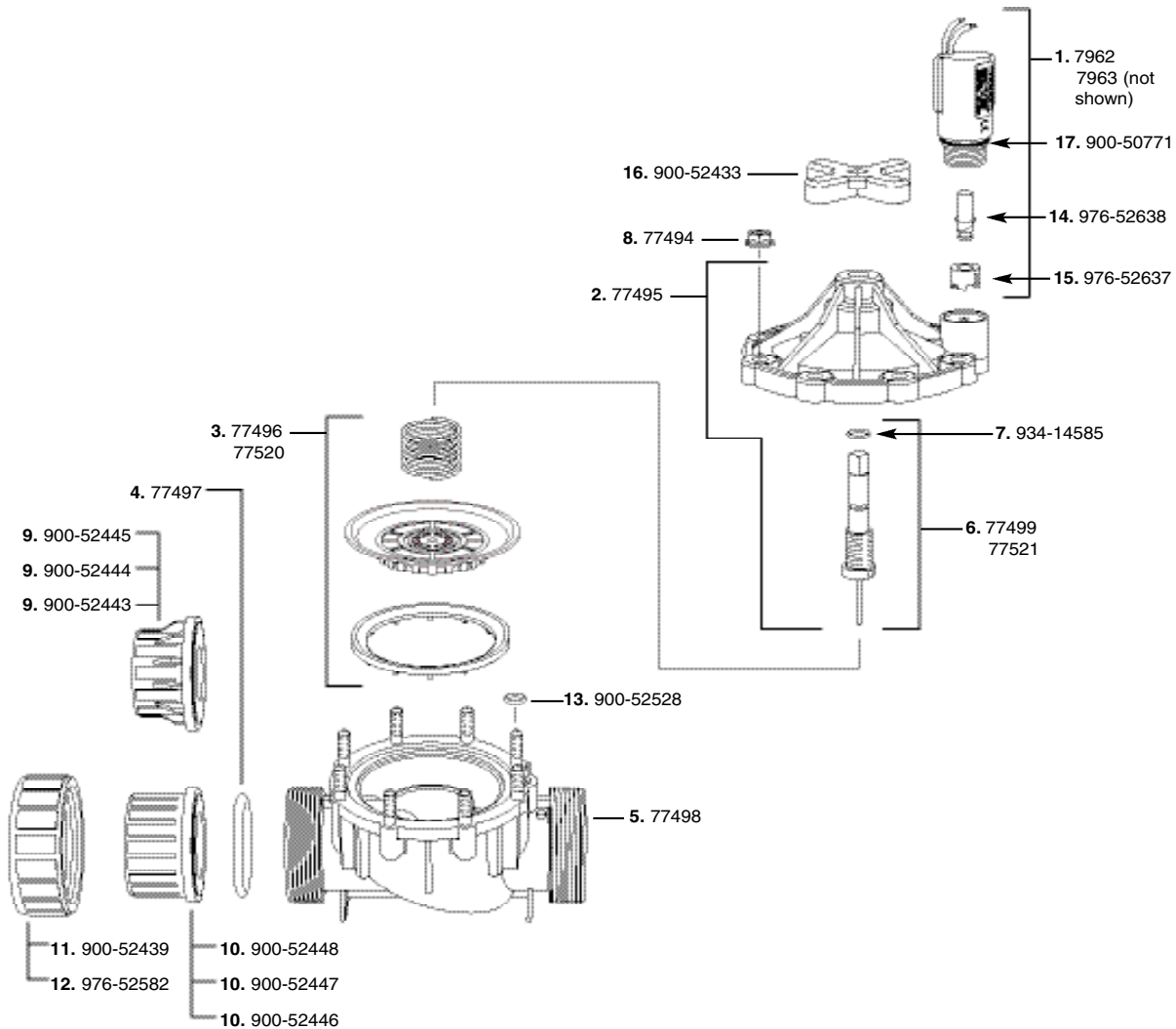


Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
7962	Solenoid (Standard 24V)	1	1	77494	Valve 1/2" nuts	7	8
7963	Solenoid (115V) & Bleed Collar	1	1	900-52528	Valve body o-ring	8	1
77495	Valve Bonnet with F/C stem	2	1	976-52638	Plunger with spring	9	1
77496	Valve Diaphragm Kit	3	1	976-52637	Plunger retainer	10	1
77520	'RW' Valve Diaphragm Kit	3	1	900-52433	F/C Knob	11	1
976-52793	1 1/2" BSP body w/ plug installed	4	1	900-05771	O-ring	12	1
976-52791	1 1/2" NPT body w/ plug installed	4	1				
976-52794	2" BSP body w/ plug installed	4	1				
976-52792	2" NPT body w/ plug installed	4	1				
77499	Valve F/C stem with o-ring	5	1				
77521	'RW' Valve F/C stem with o-ring	5	1				
934-14585	Valve F/C stem o-ring	6	1				

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# NELSON TURF

## 1 1/2" & 2" Heavy Duty Electric Valve Model 9502 Series



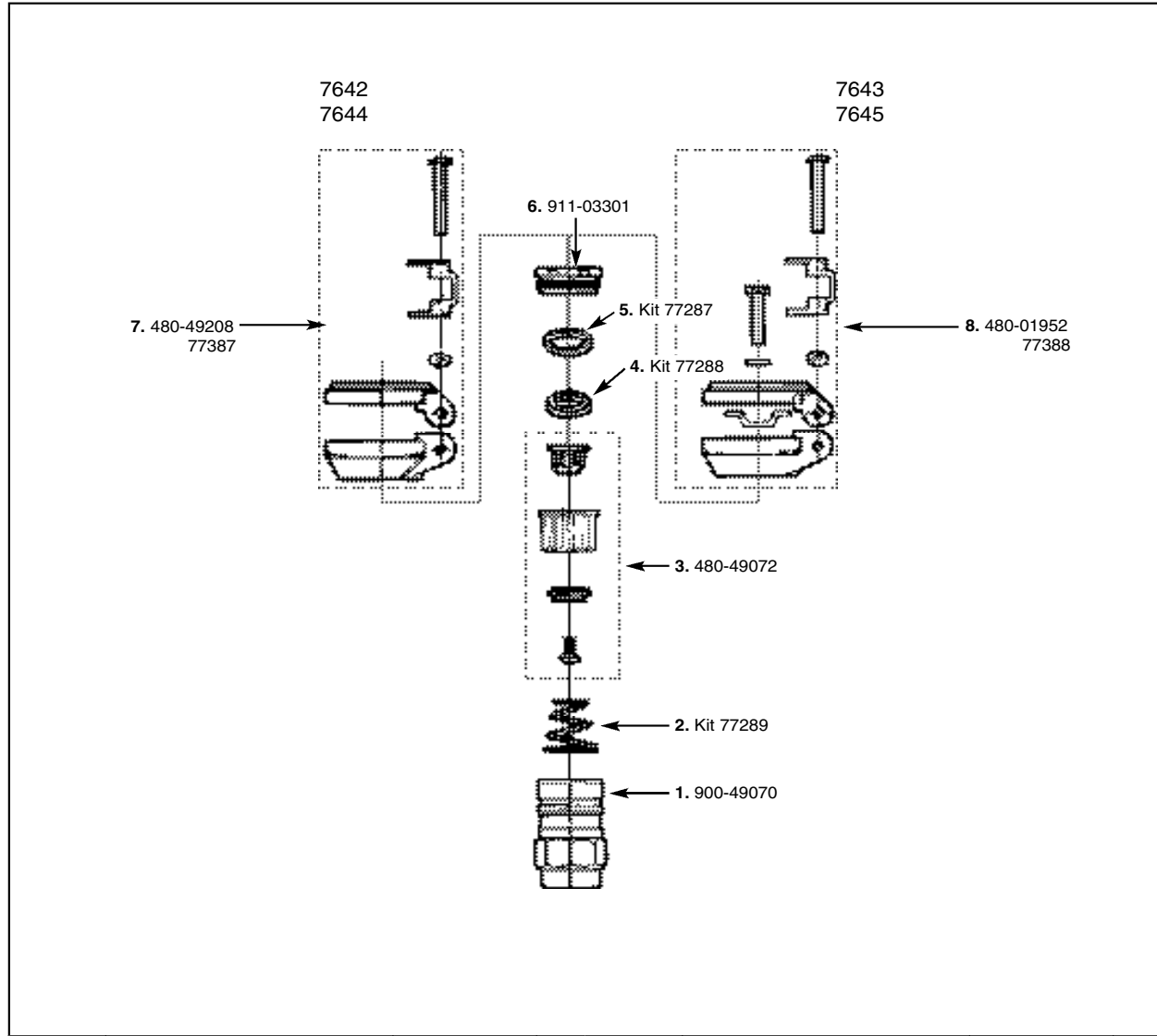
Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
7962	Solenoid (Standard 24V)	1	1	900-52444	1 1/2" NPT flange	9	1
7963	Solenoid (115V) & Bleed Collar	1	1	900-52443	1 1/2" Slip flange	9	1
77495	Valve Bonnet with F/C stem	2	1	900-52448	2" BSP flange	10	1
77496	Valve Diaphragm Kit	3	1	900-52447	2" NPT flange	10	1
77520	'RW' Valve Diaphragm Kit	3	1	900-52446	2" Slip flange	10	1
77497	Valve large white o-ring	4	2	900-52439	Coupling nut	11	1
77498	Valve 2" body	5	1	976-52582	'Reclaimed water' coupling nut	12	1
77499	Valve F/C stem with o-ring	6	1	900-52528	Valve body o-ring	13	1
77521	'RW' Valve F/C stem with o-ring	6	1	976-52637	Plunger with spring	14	1
934-14585	Valve F/C stem o-ring	7	1	976-52637	Plunger retainer	15	1
77494	Valve 1/2" nuts	8	8	900-52433	F/C Knob	16	1
900-52445	1 1/2" BSP flange	9	1	900-50771	O-ring	17	1

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# NELSON. TURF

## Quick Coupling Valves Models: 7642, 7643, 7644, 7645 (1")



Part No.	Description	Item Nos.	Qty	Part No.	Description	Item Nos.	Qty
900-49070	Body	1	1	911-03301	Retainer Nut	6	1
77289	Spring Kit	2	2	480-49208	Guard & Lid Assy. (7642)	7	1
480-49072	Sleeve Assembly	3	1	77387	Guard & Lid Assy. - Purple (7644)	7	1
77288	U Cup Seal Kit	4	6	77388	Locking Guard Assy. - Purple (7645)	8	1
77287	Washer Kit	5	6	480-01952	Locking Guard Assy. (7643)	8	1

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