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Golf Irrigation



2003 Product Reference Guide



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SPRINKLERS



Nozzle Cross Reference Chart- 800S Conversion Assemblies

730 Series	Pressure (Bar)	830S Conversion
Nozzle 31	3,4	31
	4,5	31
	5,5	31
	6,9	31
Nozzle 32	3,4	31
	4,5	32
	5,5	31
	6,9	31
Nozzle 33	3,4	32
	4,5	32
	5,5	32
	6,9	32
Nozzle 34	3,4	33
	4,5	32
	5,5	32
	6,9	32
Nozzle 35	3,4	34
	4,5	34
	5,5	33
	6,9	33
Nozzle 36	3,4	35
	4,5	34
	5,5	34
	6,9	34
Nozzle 37	3,4	35
	4,5	35
	5,5	35
	6,9	35

760 Series	Pressure (Bar)	860S Conversion
Nozzle 62	3,4	61
	4,5	61
	5,5	61
	6,9	61
Nozzle 63	3,4	62
	4,5	63
	5,5	62
	6,9	62
Nozzle 64	3,4	63
	4,5	64
	5,5	63
	6,9	62
Nozzle 65	3,4	64
	4,5	64
	5,5	64
	6,9	64
Nozzle 66	3,4	66
	4,5	66
	5,5	65
	6,9	64
Nozzle 67	3,4	66
	4,5	66
	5,5	65
	6,9	64
Nozzle 68	3,4	n/a
	4,5	66
	5,5	65
	6,9	65

630 Series	Pressure (Bar)	830S Conversion
Nozzle 31	3,4	31
	5,5	31
Nozzle 32	3,4	31
	5,5	31
Nozzle 33	3,4	32
	5,5	32
Nozzle 34	3,4	n/a
	5,5	32
	6,9	32

650 Series	Pressure (Bar)	850S Conversion
Nozzle 55	4,5	52
	5,5	52
	6,9	52
Nozzle 56	4,5	53
	5,5	52
	6,9	53
Nozzle 57	4,5	54
	5,5	54
	6,9	54
Nozzle 58	4,5	54
	5,5	54
	6,9	54
Nozzle 59	4,5	55
	5,5	55
	6,9	55

750 Series	Pressure (Bar)	850S Conversion
Nozzle 52	3,4	52
	4,5	52
	5,5	52
	6,9	52
Nozzle 53	3,4	53
	4,5	52
	5,5	52
	6,9	52
Nozzle 54	3,4	54
	4,5	53
	5,5	54
	6,9	54
Nozzle 55	3,4	54
	4,5	54
	5,5	54
	6,9	54
Nozzle 56	3,4	54
	4,5	54
	5,5	54
	6,9	54
Nozzle 57	3,4	55
	4,5	56
	5,5	55
	6,9	56
Nozzle 58	3,4	56
	4,5	57
	5,5	56
	6,9	57
Nozzle 59	3,4	n/a
	4,5	n/a
	5,5	59
	6,9	59

780 Series	Pressure (Bar)	880S Conversion
Nozzle 82	3,4	81
	4,5	82
	5,5	82
	6,9	82
Nozzle 83	3,4	82
	4,5	83
	5,5	83
	6,9	82
Nozzle 84	3,4	83
	4,5	83
	5,5	84
	6,9	84
Nozzle 85	3,4	84
	4,5	84
	5,5	85
	6,9	84
Nozzle 86	3,4	85
	4,5	85
	5,5	85
	6,9	85
Nozzle 87	3,4	n/a
	4,5	86
	5,5	85
	6,9	87
Nozzle 88	3,4	n/a
	4,5	85
	5,5	85
	6,9	85
Nozzle 89	3,4	n/a
	4,5	85
	5,5	85
	6,9	85

670 Series	Pressure (Bar)	850S Conversion
Nozzle 70	4,5	55
	5,5	55
	6,9	55
Nozzle 71	4,5	56
	5,5	56
	6,9	56
Nozzle 72	4,5	57
	5,5	57
	6,9	57
Nozzle 73	4,5	57
	5,5	59
	6,9	59
Nozzle 74	4,5	57
	5,5	59
	6,9	59

690 Series	Pressure (Bar)	850S Conversion
Nozzle 90	5,5	56
	6,9	56
Nozzle 91	5,5	58
	6,9	58
Nozzle 92	5,5	n/a
	6,9	n/a

Notes:

- Light shading indicates the 800S Series radius is sizably longer than the existing nozzle.
- Dark shading indicates the 800S Series radius is sizable shorter than the existing radius.
- * Due to the different flow rates, the hydraulic capacity of the existing system should be verified to ensure proper performance with the 800S conversion assemblies.

Toro 800S Series Sprinklers

17–29,6m (55'–97') Radius

Performance—Superior coverage

- Three-nozzle configuration provides better distribution uniformity, nozzle flexibility and system efficiency
- Constant-velocity drive provides reliable rotation speed—from sprinkler to sprinkler
- Less than half the amperage—run more sprinklers simultaneously or reduce wiring costs

Reliable—Works every time

- With nearly three times the surge protection, the Spike-Guard™ solenoid keeps the system running
- Closed-case design uniquely defends against impact and keeps internal parts free from debris contamination
- Steady piston valve opening and closing reduces pressure shock to the sprinkler's hydraulic system

Lowest cost of ownership—Improves your bottom line

- Fewer parts save time and money
- Removable rock screen—easy to service while it stops debris damage from occurring
- Indestructible stainless steel valve seat and communication tube never need replacing

Durable—Built to last even in the toughest conditions

- Debris-resistant nozzles eliminate clogging with a built-in stream straightener and inner/intermediate nozzles
- Over-molded DuraSeal™ riser has the right amount of flush on pop-up and pop-down to avoid permanent damage from debris
- DebrisBuster™ traps sediment before damage to the valve or seat occurs

Note: Decoder solenoids are not available on all model configurations. Please consult the current price list or your local Toro Manager for availability.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

830S Series

Specifications

- Radius: 16,7–27,7m (55'–91')
- Flow rate: 51,8–160,1 LPM (13,7–42,3 GPM)
- Arc: full-circle (360°)
- Recommended operating pressure range: 3,5–7 Bar (50–100 psi)
- Maximum pressure: 10,3 Bar (150 psi)
- Minimum pressure: 2,8 Bar (40 psi)
- Activation options:
 - Electric Valve-In-Head
 - Normally Open Valve-In-Head
 - Check-O-Matic (maintains 11,2m [37'] of elevation change)
- Spike-Guard™ Electric Valve-In-Head solenoid: 24 V ac, 50/60 Hz
 - Inrush: 50 Hz: 0.17 Amps
60 Hz: 0.12 Amps
 - Holding: 50 Hz: 0.15 Amps
60 Hz: 0.10 Amps

- Decoder EVIH solenoid: 24 V ac, 50/60 Hz
 - Inrush: 50 Hz: 0.47 Amps
60 Hz: 0.40 Amps
 - Holding: 50 Hz: 0.32 Amps
60 Hz: 0.24 Amps
- Nozzle variations: seven (31, 32, 33, 34, 35, 36 and 37)
- Three opposing nozzles, rotating stream pattern
- Precipitation rates:
 - Minimum: 11mm/hr (.46"/hr)
 - Maximum: 16mm/hr (.63"/hr)
- Stator variations: 2
- Inlet size: 25mm (1") NPT, BSP or ACME
- Trajectory: 25°
- Apex at 4,5 Bar (65 psi):
 - 31 nozzle: 4,7m @ 14m (15' 3" @ 46')
 - 32 nozzle: 4,9m @ 15m (16' 1" @ 49')
 - 33 nozzle: 5m @ 15,5m (16' 4" @ 51')
 - 34 nozzle: 5,1m @ 16,2m (16' 11" @ 53')
 - 35 nozzle: 5,3m @ 17m (17' 5" @ 56')



- 36 nozzle: 5,5m @ 17,7m (18' 0" @ 58')
- 37 nozzle: 5,7m @ 18,3m (18' 6" @ 60')
- Body height: 254mm (10")
- Body diameter: 165mm (6½")
- Pop-up to nozzle: 83mm (3¼")
- Weight: 1,35 Kg (2.98 lbs.)

830S Series Performance Chart—Metric

Pressure	Nozzle Set 31 ● (Yellow)		Nozzle Set 32 ● (Blue)		Nozzle Set 33 ● (Brown)		Nozzle Set 34 ● (Orange)		Nozzle Set 35 ● (Green)		Nozzle Set 36 ● (Gray)		Nozzle Set 37 ● (Black)			
	● BLUE ■ RED		● BLUE ■ RED		● ORANGE ■ RED		● ORANGE ■ RED		● GRAY ■ RED		● GRAY ■ RED		● RED ■ RED			
	Bar	kPa	kg/cm²	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	
3,4	340	3,47	16,8	52	18,6	66	19,2	77	20,4	94	21,0	107	21,0	111	21,0	122
4,5	450	4,59	17,4	59	19,8	76	20,4	88	22,3	107	23,5	122	23,5	128	23,5	137
5,5	550	5,61	18,3	65	21,0	84	21,7	98	24,1	120	25,0	136	25,3	142	25,3	153
6,9	690	7,04	19,2	73	22,3	94	22,9	109	24,7	134	26,8	153	27,1	160	27,8	171
Low-flow Stator									Medium-flow Stator							

■ Not available in electric models. Radius shown in meters. Toro recommends the use of a 30mm (1¼") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1. ● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle

830S Series Performance Chart—U.S.

Base Pressure	Nozzle Set 31 ● (Yellow)		Nozzle Set 32 ● (Blue)		Nozzle Set 33 ● (Brown)		Nozzle Set 34 ● (Orange)		Nozzle Set 35 ● (Green)		Nozzle Set 36 ● (Gray)		Nozzle Set 37 ● (Black)		
	● BLUE ■ RED		● BLUE ■ RED		● ORANGE ■ RED		● ORANGE ■ RED		● GRAY ■ RED		● GRAY ■ RED		● RED ■ RED		
	psi	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM
50	55	13.7	61	17.5	63	20.4	67	24.9	69	28.2	69	29.4	69	32.2	
65	57	15.5	65	20.0	67	23.3	73	28.4	77	32.3	77	33.7	77	36.2	
80	60	17.2	69	22.2	71	25.8	79	31.7	82	35.9	83	37.6	83	40.5	
100	63	19.2	73	24.8	75	28.8	81	35.4	88	40.4	89	42.2	91	45.3	
Low-flow Stator									Medium-flow Stator						

■ Not available in electric models. Radius shown in feet. Toro recommends the use of a 30mm (1¼") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1. ● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle

Ordering Information—830S & 850S Series Sprinklers

Body Inlet	Arc	Body Threads	Valve Type	Nozzle	Pressure Regulation*	Optional
830S 3—25mm (1") 850S 5—40mm (1½")	4—Full-circle	0—NPT 4—ACME 5—BSP	1—Normally Open Hydraulic 2—Check-O-Matic 6—Electric	830S 31 32 33 34 35 36 37 850S 52 53 54 55 56 57 58 59	6—4,5 Bar (65 psi) 8—5,5 Bar (80 psi) 1—6,9 Bar (100 psi)	E—Effluent Model D—Decoder

For Example:
When specifying a 830S Series Sprinkler with NPT threads, #34 nozzle, an electric valve and pressure regulation at 4,5 Bar (65 psi), you would order:

834S-06-346

* Electric only. Spike-Guard and DuraSeal are trademarks of The Toro Company

850S Series

Specifications

- Radius: 18,5–29,5m (61'–97')
- Flow rate: 68,0–227,2 LPM (18–60.1 GPM)
- Arc: full-circle (360°)
- Recommended operating pressure range: 4,5–7 Bar (65–100 psi)
- Maximum pressure: 10,3 Bar (150 psi)
- Minimum pressure: 2,8 Bar (40 psi)
- Activation options:
 - Electric Valve-In-Head
 - Normally Open Valve-In-Head
 - Check-O-Matic (maintains 11,2 m [37'] of elevation change)

- Spike-Guard™ Electric Valve-In-Head solenoid: 24 V ac, 50/60 Hz
 - Inrush: 50 Hz: 0.17 Amps
60 Hz: 0.12 Amps
 - Holding: 50 Hz: 0.15 Amps
60 Hz: 0.10 Amps
- Decoder EVIH solenoid: 24 V ac, 50/60 Hz
 - Inrush: 50 Hz: 0.47 Amps
60 Hz: 0.40 Amps
 - Holding: 50 Hz: 0.32 Amps
60 Hz: 0.24 Amps
- Nozzle variations: eight (52, 53, 54, 55, 56, 57, 58 and 59)
- Three opposing nozzles, rotating stream pattern
- Precipitation rates:
 - Minimum: 13mm/hr (.50"/hr)
 - Maximum: 16mm/hr (.72"/hr)
- Stator variations: 3
- Inlet size: 40mm (1½") NPT, BSP or ACME
- Trajectory: 25°
- Apex at 5,5 Bar (80 psi):
 - 52 nozzle: 5,8 @ 14m (19' 0" @ 46')
 - 53 nozzle: 6,3 @ 15,5m (20' 10" @ 51')
 - 54 nozzle: 6,4 @ 16,2m (21' 0" @ 53')
 - 55 nozzle: 6,9 @ 18,9m (22' 8" @ 62')
 - 56 nozzle: 7,2 @ 19,5m (23' 6" @ 64')
 - 57 nozzle: 7,5 @ 19,5m (24' 6" @ 64')
 - 58 nozzle: 7,6 @ 20,1m (25' 0" @ 66')
 - 59 nozzle: 7,7 @ 20,7m (25' 4" @ 68')
- Body height: 290mm (11½")
- Body diameter: 190mm (7½")
- Pop-up to nozzle: 80mm (3¼")
- Weight: 1,68 Kg (3.70 lbs.)



850S Series Performance Chart—Metric

Pressure			Nozzle Set 52 ● (Blue)		Nozzle Set 53 ● (Brown)		Nozzle Set 54 ● (Orng)		Nozzle Set 55 ● (Green)		Nozzle Set 56 ● (Gray)		Nozzle Set 57 ● (Black)		Nozzle Set 58 ● (Red)		Nozzle Set 59 ● (Beige)	
			● BLUE	■ RED	● ORNG	■ RED	● ORNG	■ RED	● GRAY	■ RED	● GRAY	■ RED	● RED	■ RED	● RED	■ RED	● BEIGE	■ RED
Bar	kPa	kg/cm ²	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM
3,4	340	3,47	18,6	68	19,2	79	21,0	99	21,7	115	22,3	120	22,6	146	22,9	146	22,9	166
4,5	450	4,59	20,4	77	21,0	90	22,9	113	23,8	131	24,7	137	25,3	162	25,3	162	25,3	190
5,5	550	5,61	21,7	86	22,3	100	24,1	125	25,6	145	26,5	151	27,1	180	27,5	180	27,8	211
6,9	690	7,04	22,3	96	22,9	112	25,3	140	27,1	162	27,8	170	29,0	201	29,3	201	29,6	227
Low-flow Stator									Medium-flow Stator						High-flow Stator			

Not available in electric models. Radius shown in meters. Toro recommends the use of a 30mm (1¼") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1
 ● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle

850S Series Performance Chart—U.S.

Base Pressure		Nozzle Set 52 ● (Blue)		Nozzle Set 53 ● (Brown)		Nozzle Set 54 ● (Orng)		Nozzle Set 55 ● (Green)		Nozzle Set 56 ● (Gray)		Nozzle Set 57 ● (Black)		Nozzle Set 58 ● (Red)		Nozzle Set 59 ● (Beige)		
		● BLUE	■ RED	● ORNG	■ RED	● ORNG	■ RED	● GRAY	■ RED	● GRAY	■ RED	● RED	■ RED	● RED	■ RED	● BEIGE	■ RED	
psi	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM
50	61	18.0	63	20.8	69	26.1	71	30.3	73	31.7	74	38.5	75	38.5	75	43.9		
65	67	20.4	69	23.8	75	29.9	78	34.5	81	36.1	83	42.9	83	42.9	83	50.2		
80	71	22.7	73	26.4	79	33.0	84	38.4	87	40.0	89	47.6	90	47.6	91	55.7		
100	73	25.4	75	29.5	83	37.0	89	42.9	91	44.8	95	53.2	96	53.2	97	60.1		
Low-flow Stator									Medium-flow Stator						High-flow Stator			

Not available in electric models. Radius shown in feet. Toro recommends the use of a 30mm (1¼") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1
 ● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle



Attention:
600 and 700
Users

800S Conversion Assemblies

- Lower cost
- Higher pop-up
- Easier to adjust arc
- Easier to service

Quickly upgrades existing Toro sprinklers to the latest technology to provide many of the features of the 800S Series sprinkler.

Note: Decoder solenoids are not available on all model configurations. Please consult the current price list or your local Toro Manager for availability.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

860S Series

Specifications

- Radius: 17,3–24,6m (57'–81')
- Flow rate: 53,3–162,0 LPM (14.1–42.8 GPM)
- Arc: full-circle (360°) and adjustable part-circle (30°–330°)
- Recommended operating pressure range: 4,5–7 Bar (65–100 psi)
- Maximum pressure: 10,3 Bar (150 psi)
- Minimum pressure: 2,8 Bar (40 psi)
- Activation options:
 - Electric Valve-In-Head
 - Normally Open Valve-In-Head
 - Check-O-Matic (maintains 11,2 m [37'] of elevation change)
- Spike-Guard™ Electric Valve-In-Head solenoid: 24 V ac, 50/60 Hz
 - Inrush: 50 Hz: 0.17 Amps
60 Hz: 0.12 Amps
 - Holding: 50 Hz: 0.15 Amps
60 Hz: 0.10 Amps
- Decoder EVIH solenoid: 24 V ac, 50/60 Hz
 - Inrush: 50 Hz: 0.47 Amps
60 Hz: 0.40 Amps
 - Holding: 50 Hz: 0.32 Amps
60 Hz: 0.24 Amps

- Nozzle Variations: seven (61, 62, 63, 64, 65, 66 and 67)
- Three in-line nozzles, rotating stream pattern
- Back nozzle capable
- Precipitation rates:
 - Minimum: 9mm/hr (.37"/hr)
 - Maximum: 19mm/hr (.75"/hr)
- Stator variations: 1
- Inlet size: 25mm (1") NPT, BSP or ACME
- Trajectory: 25°
- Apex at 4,5 Bar (65 psi):
 - 61 nozzle: 4,8m @ 12,5m (15' 9" @ 41')
 - 62 nozzle: 4,9m @ 13,1m (16' 0" @ 43')
 - 63 nozzle: 5m @ 13,1m (16' 4" @ 43')
 - 64 nozzle: 5,2m @ 14,6m (17' 2" @ 48')
 - 65 nozzle: 5,3m @ 14,6m (17' 4" @ 48')
 - 66 nozzle: 5,4m @ 15,2m (17' 8" @ 50')
 - 67 nozzle: 5,5m @ 15,2m (17' 10" @ 50')
- Body height: 254mm (10")
- Body diameter: 170mm (6½")
- Pop-up to nozzle: 80mm (3¼")
- Weight: 1,45 Kg (3.20 lbs.)



860S Series Performance Chart—Metric

Pressure			Nozzle Set 61 ● (Yellow)		Nozzle Set 62 ● (Blue)		Nozzle Set 63 ● (Brown)		Nozzle Set 64 ● (Orange)		Nozzle Set 65 ● (Green)		Nozzle Set 66 ● (Gray)		Nozzle Set 67 ● (Black)	
			● ORANGE	■ RED	● GRAY	■ RED	● RED	■ RED	● RED	■ RED	● BEIGE	■ RED	● BEIGE	■ RED	▲ RED	■ RED
Bar	kPa	kg/cm²	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM
3,4	340	3,47	17,4	53	18,3	69	18,6	76	19,2	91	19,5	107	19,8	111	18,0	109
4,5	450	4,59	18,0	61	19,2	80	19,8	88	21,0	105	21,0	124	21,7	128	20,4	127
5,5	550	5,61	18,6	68	20,4	89	21,0	98	22,3	118	22,9	139	22,9	143	22,3	143
6,9	690	7,04	19,2	76	21,7	100	21,7	111	23,5	132	24,7	156	24,7	161	24,7	162
Beige Stator																

Not available in electric models. Radius shown in meters.
 Toro recommends the use of a 30mm (1¼") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1
 ● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle ▲ = Inner Nozzle w/o Restrictor

860S Series Performance Chart—U.S.

Base Pressure		Nozzle Set 61 ● (Yellow)		Nozzle Set 62 ● (Blue)		Nozzle Set 63 ● (Brown)		Nozzle Set 64 ● (Orange)		Nozzle Set 65 ● (Green)		Nozzle Set 66 ● (Gray)		Nozzle Set 67 ● (Black)	
		● ORANGE	■ RED	● GRAY	■ RED	● RED	■ RED	● RED	■ RED	● BEIGE	■ RED	● BEIGE	■ RED	▲ RED	■ RED
psi	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	
50	57	14.1	60	18.3	61	20.1	63	24.0	64	28.3	65	29.2	59	28.9	
65	59	16.2	63	21.1	65	23.2	69	27.8	69	32.7	71	33.8	67	33.5	
80	61	18.0	67	23.6	69	25.9	73	31.1	75	36.7	75	37.9	73	37.9	
100	63	20.1	71	26.5	71	29.2	77	35.0	81	41.2	81	42.6	81	42.8	
Beige Stator															

Not available in electric models. Radius shown in feet.
 Toro recommends the use of a 30mm (1¼") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1
 ● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle ▲ = Inner Nozzle w/o Restrictor

Ordering Information—860S & 880S Series Sprinklers

Body Inlet	Arc	Body Threads	Valve Type	Nozzle	Pressure Regulation*	Optional
860S 6—25mm (1")	4—Full-circle 5—Adjustable Part-circle	0—NPT 4—ACME 5—BSP	1—Normally Open Hydraulic 2—Check-O-Matic 6—Electric	860S 61 62 63 64 65 66 67 880S 81 82 83 84 85 86 87 88	6—4,5 Bar (65 psi) 8—5,5 Bar (80 psi) 1—6,9 Bar (100 psi)	E—Effluent Model D—Decoder
8—40mm (1½")						

For Example:
 When specifying a full-circle 880S Series Sprinkler with NPT threads, #82 nozzle, an electric valve and pressure regulation at 4,5 Bar (65 psi), you would order:

884S-06-826

Note: Decoder solenoids are not available on all model configurations. Please consult the current price list or your local Toro Manager for availability.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

* Electric only.

880S Series

Specifications

- Radius: 16,7–25,6m (55'–84')
- Flow rate: 54,1–190 LPM (14.3–50.2 GPM)
- Arc: full-circle (360°) and adjustable part-circle (30°–330°)
- Recommended operating pressure range: 4,5–7 Bar (65–100 psi)
- Maximum pressure: 10,3 Bar (150 psi)
- Minimum pressure: 2,8 Bar (40 psi)
- Activation options:
 - Electric Valve-In-Head
 - Normally Open Valve-In-Head
 - Check-O-Matic (maintains 11,2 m [37'] of elevation change)
- Spike-Guard™ Electric Valve-In-Head solenoid: 24 V ac, 50/60 Hz
 - Inrush: 50 Hz: 0.17 Amps
60 Hz: 0.12 Amps
 - Holding: 50 Hz: 0.15 Amps
60 Hz: 0.10 Amps
- Decoder EVIH solenoid: 24 V ac, 50/60 Hz
 - Inrush: 50 Hz: 0.47 Amps
60 Hz: 0.40 Amps
 - Holding: 50 Hz: 0.32 Amps
60 Hz: 0.24 Amps

- Nozzle variations: eight (81, 82, 83, 84, 85, 86, 87 and 88)
- Three in-line nozzles, rotating stream pattern
- Back nozzle capable
- Precipitation rates:
 - Minimum: 10mm/hr (.39"/hr)
 - Maximum: 19mm/hr (.74"/hr)
- Stator variations: 1
- Inlet size: 40mm (1½") NPT, BSP or ACME
- Trajectory: 25°
- Apex at 5,5 Bar (80 psi):
 - 81 nozzle: 4,7m @ 13,1m (15' 4" @ 43')
 - 82 nozzle: 5,2m @ 13,7m (17' 0" @ 45')
 - 83 nozzle: 5,2m @ 14m (17' 1" @ 46')
 - 84 nozzle: 5,4m @ 15,2m (17' 6" @ 50')
 - 85 nozzle: 5,7m @ 15,5m (18' 6" @ 51')
 - 86 nozzle: 6,2m @ 16,2m (20' 4" @ 53')
 - 87 nozzle: 6,3m @ 16,8m (20' 8" @ 55')
 - 88 nozzle: 6,4m @ 17,4m (20' 11" @ 57')
- Body height: 290mm (11½")
- Body diameter: 190mm (7½")
- Pop-up to nozzle: 80mm (3¼")
- Weight: 1,73 Kg (3.81 lbs.)



880S Series Performance Chart—Metric

Pressure	Nozzle Set 81 ● (Yellow)		Nozzle Set 82 ● (Blue)		Nozzle Set 83 ● (Brown)		Nozzle Set 84 ● (Orng)		Nozzle Set 85 ● (Green)		Nozzle Set 86 ● (Gray)		Nozzle Set 87 ● (Black)		Nozzle Set 88 ● (Red)			
	● ORANGE	■ RED	● GRAY	■ RED	● RED	■ RED	● RED	■ RED	● BEIGE	■ RED	● BEIGE	■ RED	▲ RED	■ RED	▲ RED	■ RED		
	Bar	kPa	kg/cm ²	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	
3,4	340	3,47	16,8	54	18,3	71	18,6	79	19,8	95	19,8	114	20,1	118	20,1	118	20,1	130
4,5	450	4,59	17,4	62	19,2	81	20,4	90	21,0	109	22,3	132	22,3	137	22,3	137	22,3	150
5,5	550	5,61	18,0	70	20,1	91	21,0	101	22,3	122	23,5	147	23,5	153	23,5	155	23,5	169
6,9	690	7,04	18,3	78	21,0	102	21,7	113	23,5	137	25,3	165	25,3	172	25,3	174	25,6	190
Beige Stator																		

Not available in electric models. Radius shown in meters.
 Toro recommends the use of a 30mm (1¼") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1
 ● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle ▲ = Inner Nozzle w/o Restrictor

880S Series Performance Chart—U.S.

Base Pressure	Nozzle Set 81 ● (Yellow)		Nozzle Set 82 ● (Blue)		Nozzle Set 83 ● (Brown)		Nozzle Set 84 ● (Orng)		Nozzle Set 85 ● (Green)		Nozzle Set 86 ● (Gray)		Nozzle Set 87 ● (Black)		Nozzle Set 88 ● (Red)	
	● ORANGE	■ RED	● GRAY	■ RED	● RED	■ RED	● RED	■ RED	● BEIGE	■ RED	● BEIGE	■ RED	▲ RED	■ RED	▲ RED	■ RED
	psi	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius
50	55	14.3	60	18.7	61	20.8	65	25.1	65	30.2	66	31.3	66	31.3	66	34.4
65	57	16.5	63	21.4	67	23.9	69	28.9	73	34.8	73	36.1	73	36.3	73	39.7
80	59	18.4	66	24.1	69	26.7	73	32.3	77	38.9	77	40.4	77	40.9	77	44.7
100	60	20.6	69	27.0	71	29.9	77	36.3	83	43.7	83	45.4	83	46.1	84	50.2
Beige Stator																

Not available in electric models. Radius shown in feet.
 Toro recommends the use of a 30mm (1¼") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1
 ● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle ▲ = Inner Nozzle w/o Restrictor



Attention:
600 and 700
Users

800S Conversion Assemblies

- Lower cost
- Higher pop-up
- Easier to adjust arc
- Easier to service

Quickly upgrades existing Toro sprinklers to the latest technology to provide many of the features of the 800S Series sprinkler.

Note: Decoder solenoids are not available on all model configurations. Please consult the current price list or your local Toro Manager for availability.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Toro 690 Series Sprinklers

26,5–33m (87'–108') Radius



Attention: 600 Users

Features

- Two standard pressure-regulation settings available to ensure consistently accurate nozzle performance, regardless of elevation:
 - 5,5 Bar and 6,9 Bar (80 psi and 100 psi) (electric)
- Three body styles/activation types available to fit every application:
 - Electric Valve-In-Head
 - Normally Open Hydraulic Valve-In-Head
 - Check-O-Matic
- Manual control at the sprinkler, On-Off-Auto (electric)
- Bowl-vented discharge (atmospheric) minimizes the differential pressure required for regulation and ensures positive valve closure (electric)
- Time-proven, gear-drive design
- All internal components serviceable from the top of the sprinkler
- Large selection of nozzles available
- Durable engineering plastic and stainless steel construction

800S Conversion Assemblies

- Lower cost
- Higher pop-up
- Easier to adjust arc
- Easier to service

Quickly upgrades existing Toro sprinklers to the latest technology to provide all the features of the 800S Series sprinkler.

Specifications

- Radius: 26,5–33,0m (87'–108')
- Flow rate: 193–311 LPM (51.0–82.2 GPM)
- 40mm (1½") NPT female-threaded inlet
- 9 arc selections:
 - 90°, 150°, 165°, 180°, 195°, 210°, 360° fixed arcs
 - 60°/120° full-circle, two-speed
 - 180°/180° full-circle, two-speed (Two speed models run half speed in non-overlap areas to provide balanced water application)
- Rubber cover kit option: Part No. 690-01
- Dimensions:
 - Height: 405mm (16")

690 Series Performance Chart—Metric

Base Pressure			Nozzle Set 90		Nozzle Set 91		Nozzle Set 92	
Bar	kPa	Kg/cm ²	Rad.	LPM	Rad.	LPM	Rad.	LPM
5,5	550	5,61	26,5	193	29,3	232	30,5	280
6,9	690	7,04	27,4	216	30,5	278	32,9	311

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

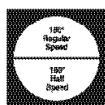
690 Series Performance Chart—U.S.

Base Pressure			Nozzle Set 90		Nozzle Set 91		Nozzle Set 92	
psi	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
80	87	51.0	96	61.2	100	74.0		
100	90	57.1	100	73.5	108	82.2		

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



Two-speed designs offer an economical alternative in non-overlapping areas while providing balanced water application.



Ordering Information

Arc		Valve Type		Nozzle	Pressure Regulation*
1—90°	A—150°	1—Normally Open Hydraulic	90	8—5,5 Bar (80 psi)	
2—180°	B—165°	2—Check-O-Matic	91	1—6,9 Bar (100 psi)	
4—Full-circle	C—195°	6—Electric	92		
6—Full-circle, 2-speed (60°-120°)	D—210°				
8—Full-circle, 2-speed (180°-180°)					

For Example:

When specifying a 690 Series Sprinkler with a 180° arc, an electric valve-in-head, #91 nozzle and pressure regulation at 5,5 Bar (80 psi), you would order:

692-06-918

*Electric models only.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Toro 670 Series Sprinklers

23,8–31m (78'–102') Radius



Features

- Three standard pressure regulation settings available to ensure consistently accurate nozzle performance:
 - 4,5 Bar, 5,5 Bar and 6,9 Bar (65 psi, 80 psi and 100 psi) (electric)
- Three body styles/activation types available to fit every application:
 - Electric Valve-In-Head
 - Normally Open Hydraulic Valve-In-Head
 - Check-O-Matic
- Manual control at the sprinkler, On-Off-Auto (electric)
- Time-proven, planetary gear-drive design
- All internal components serviceable from the top of the sprinkler
- Large selection of nozzles available

670 Specifications

- Radius: 23,8–31m (78'–102')
- Flow rate: 140–253 LPM (36.9–66.8 GPM)
- 40mm (1½") NPT female-threaded inlet, BSP threads available
- Full-circle
- Rubber cover kit option: Part No. 670-00 (flat flange), Part No. 670-01 (round flange)
- Dimensions:
 - Height: 280mm (11")

670 Series Performance Chart—Metric

Base Pressure			Nozzle Set 70		Nozzle Set 71		Nozzle Set 72		Nozzle Set 73		Nozzle Set 74	
Bar	kPa	Kg/cm ²	Rad.	LPM	Rad.	LPM	Rad.	LPM	Rad.	LPM	Rad.	LPM
4,5	450	4,59	23,8	140	24,4	156	25,3	175	25,6	193	26,2	218
5,5	550	5,61	25,6	156	26,2	173	27,1	193	28,0	209	28,7	226
6,5	650	6,63	26,5	170	27,0	188	28,6	210	29,5	231	30,4	245

Radius shown in meters. Shaded areas represent nozzles not recommended at this pressure. Sprinkler radius of throw per ASAE standard S398.1

670 Series Performance Chart—U.S.

Base Pressure			Nozzle Set 70		Nozzle Set 71		Nozzle Set 72		Nozzle Set 73		Nozzle Set 74	
psi	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM	Rad.	GPM
65	78	36.9	80	41.1	83	46.3	84	51.0	86	57.5		
80	84	41.2	86	45.6	89	51.0	92	55.3	94	59.6		
100	88	46.2	90	51.2	95	57.3	98	62.8	102	66.8		

Radius shown in feet. Shaded areas represent nozzles not recommended at this pressure. Sprinkler radius of throw per ASAE standard S398.1



Ordering Information

Arc		Body Thread	Valve Type		Nozzle		Pressure Regulation*
674—Full-circle	0—NPT	1—Normally Open Hydraulic	70	73	71	74	6—4,5 Bar (65 psi)
	5—BSP	2—Check-O-Matic					8—5,5 Bar (80 psi)
		6—Electric			72		1—6,9 Bar (100 psi)

For Example:

When specifying a 670 Series Sprinkler with a full-circle, NPT threads, #72 nozzle, an electric valve and pressure regulation at 5,5 Bar (80 psi), you would order:

674-06-728

*Electric models only.

Toro 650 Series Sprinklers

19,2–26m (63'–86') Radius

Features

- Three standard pressure regulation settings available to ensure consistently accurate nozzle performance:
 - 3,5 Bar, 4,5 Bar, 5,5 Bar and 6,9 Bar (65 psi, 80 psi and 100 psi) (electric)
- Three body styles/activation types available to fit every application:
 - Electric Valve-In-Head
 - Normally Open Hydraulic Valve-In-Head
 - Check-O-Matic

- Manual control at the sprinkler, On-Off-Auto (electric)
- Time-proven gear-drive design
- All internal components serviceable from the top of the sprinkler

650 Specifications

- Radius: 19,2–26,2m (63'–86')
- Flow rate: 70,8–165,4 LPM (20.4–43.7 GPM)
- 40mm (1½") NPT female-threaded inlet, BSP threads available
- 2 arc selections:
 - 60°x120° full-circle, two-speed
 - 180°x180° full-circle, two-speed
- Rubber cover kit options:
 - Part No. 650-00 (flat flange),
 - Part No. 650-01 (round flange)
- Dimensions:
 - Height: 280mm (11")



650 Series Performance Chart—Metric

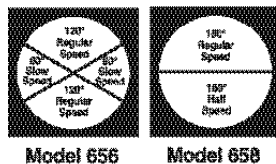
Base Pressure			Nozzle Set 55		Nozzle Set 56		Nozzle Set 57		Nozzle Set 58		Nozzle Set 59	
Bar	kPa	Kg/cm ²	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM
4,5	450	4,59	19,2	70,8	20,7	77,2	21,6	98,8	22,3	106	23,8	132
5,5	550	5,61	19,8	78,4	21,6	85,6	22,9	109	23,8	120	25,0	147
6,9	690	7,04	21,3	87,4	23,2	99,9	24,1	122	25,0	134	26,2	165

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

650 Series Performance Chart—U.S.

Base Pressure		Nozzle Set 55		Nozzle Set 56		Nozzle Set 57		Nozzle Set 58		Nozzle Set 59	
psi	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	
65	63	18.7	68	20.4	71	26.1	73	28.1	78	34.9	
80	65	20.7	71	22.6	75	28.8	78	31.7	82	38.8	
100	70	23.1	76	26.4	79	32.1	82	35.3	86	43.7	

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



Two-speed designs offer an economical alternative in non-overlapping areas while providing balanced water application.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information

Arc	Body Thread	Valve Type	Nozzle	Pressure Regulation*
6—Full-circle, 2-speed (60°–120°)	0—NPT 5—BSP	1—Normally Open Hydraulic 2—Check-O-Matic 6—Electric	55 58 56 59 57	6—4,5 Bar (65 psi) 8—5,5 Bar (80 psi) 1—6,9 Bar (100 psi)
For Example: When specifying a 650 Series Sprinkler with a full-circle, 2-speed (60°–120°) arc, NPT threads, #55 nozzle, an electric valve and pressure regulation at 5,5 Bar (80 psi), you would order:				
656-06-558				

*Electric models only.

Toro 730 Series Sprinklers

15–26m (50'–84') Radius

Features

- Full 75mm (3") pop-up to clear taller grasses
- Nozzles color-coded by radius and gallage
- Caps serve as yardage markers or effluent water indicators
- Variable stator
- Four standard pressure-regulation settings available to ensure consistently accurate nozzle performance:
 - 3,5, 4,5, 5,5 and 6,9 Bar (50, 65, 80 and 100 psi) (electric)
- Three body styles/activation types available to fit every application:
 - Electric Valve-In-Head
 - Normally Open Hydraulic Valve-In-Head
 - Check-O-Matic
- Manual control at the sprinkler, On-Off-Auto (electric)
- Time-proven planetary gear-drive design
- All internal components serviceable from the top of the sprinkler
- Large selection of color-coded nozzles available
- Effluent indicators available
 - Cap (Part No. 89-8289)

730 Specifications

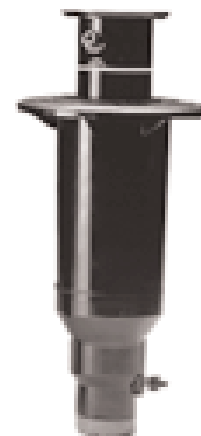
- Radius: 15–26m (50'–84')
- Flow rate: 57,5–143,8 LPM (15,2–38 GPM)
- 25mm (1") NPT female-threaded inlet, BSP and ACME threads available
- Full-circle
- Dimensions:
 - Height: 255mm (10")



Attention:
600 and 700
Users

Conversion Assemblies

- Lower cost
 - Higher pop-up
 - Easier to service
- Quickly upgrades existing 600 and 700 Series Toro sprinklers to provide all the features of the 800 Series sprinklers.



730 Series Performance Chart—Metric

Pressure			Nozzle Set 31 ● (Yellow)		Nozzle Set 32 ● (Orange)		Nozzle Set 33 ● (Brown)		Nozzle Set 34 ● (Blue)		Nozzle Set 35 ● (Green)		Nozzle Set 36 ● (Red)		Nozzle Set 37 ● (Gray)	
			■ RED		■ RED		■ RED		■ RED		■ RED		■ RED		■ RED	
Bar	kPa	kg/cm ²	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM
3,4	340	3,47	15,3	58	16,8	65	18,0	73	18,9	83	19,8	85	20,7	94	21,0	101
4,5	450	4,59	16,2	65	17,7	75	18,6	84	19,5	94	20,7	98	21,7	107	22,6	116
5,5	550	5,61	16,8	72	18,3	83	19,8	93	20,4	104	21,7	108	23,2	119	24,4	129
6,9	690	7,04	17,4	81	18,9	93	20,7	103	21,7	117	22,9	121	24,4	133	25,6	144
Beige Stator											Black Stator				Green Stator	

*Radius shown in meters
Toro recommends the use of a 30mm (1 1/4") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1*

■ Not recommended at this pressure
● = Main Nozzle ■ = Inner Nozzle

730 Series Performance Chart—U.S.

Base Pressure	Nozzle Set 31 ● (Yellow)		Nozzle Set 32 ● (Blue)		Nozzle Set 33 ● (Brown)		Nozzle Set 34 ● (Orange)		Nozzle Set 35 ● (Green)		Nozzle Set 36 ● (Red)		Nozzle Set 37 ● (Gray)	
	■ Red		■ Red		■ Red		■ Red		■ Red		■ Red		■ Red	
psi	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM
50	50	15.2	55	17.3	59	19.4	62	21.8	65	22.5	68	24.8	69	26.8
65	53	17.3	58	19.8	61	22.1	64	24.9	68	25.8	71	28.3	74	30.6
80	55	19.1	60	21.9	65	24.5	67	27.5	71	28.6	76	31.5	80	34.0
100	57	21.3	62	24.5	68	27.2	71	30.8	75	32.0	80	35.2	84	38.0
Beige Stator									Black Stator				Green Stator	

*Radius shown in feet
Toro recommends the use of a 30mm (1 1/4") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1*

■ Not recommended at this pressure
● = Main Nozzle ■ = Inner Nozzle



Model 734

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information

Body Threads	Valve Type	Nozzle	Pressure Regulation*
0—NPT 4—ACME 5—BSP	1—Normally Open Hydraulic 2—Check-O-Matic 6—Electric	31 35 32 36 33 37 34	5—3,5 Bar (50 psi) 6—4,5 Bar (65 psi) 8—5,5 Bar (80 psi) 1—6,9 Bar (100 psi)
For Example: When specifying a 734 Series Sprinkler with NPT threads, #34 nozzle, an electric valve and pressure regulation at 3,5 Bar (50 psi), you would order: 734-06-345			

*Electric models only.

Toro 750 Series Sprinklers

17–30m (56'–98') Radius

Features

- Full 75mm (3") pop-up to clear taller grasses
- Nozzles color-coded by radius and gallonage
- Caps serve as yardage markers or effluent water indicators
- Variable stator
- Four standard pressure-regulation settings available to ensure consistently accurate nozzle performance:
 - 3,5, 4,5, 5,5 and 6,9 Bar (50, 65, 80 and 100 psi) (electric)
- Three body styles/activation types available to fit every application:
 - Electric Valve-In-Head
 - Normally Open Hydraulic Valve-In-Head
 - Check-O-Matic
- Manual control at the sprinkler, On-Off-Auto (electric)
- Time-proven planetary gear-drive design
- All internal components serviceable from the top of the sprinkler
- Large selection of color-coded nozzles available
- ACME, NPT and BSP body threads available
- Effluent indicators available:
 - Cap (Part No. 89-8290)

750 Specifications

- Radius: 17–30m (56'–98')
- Flow rate: 49,2–227,5 LPM (13.0–60.1 GPM)
- 40mm (1½") NPT female-threaded inlet, BSP and ACME threads available
- Full-circle
- Dimensions:
 - Height: 280mm (11")



Attention:
700
Users

Conversion Assemblies

- Lower cost
 - Higher pop-up
 - Easier to service
- Quickly upgrades existing Toro sprinklers to provide all the features of the 800 Series sprinklers.



750 Series Performance Chart—Metric

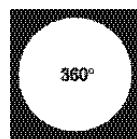
Pressure	Nozzle Set 52 ● (Orng)		Nozzle Set 53 ● (Brown)		Nozzle Set 54 ● (Blue)		Nozzle Set 55 ● (Green)		Nozzle Set 56 ● (Red)		Nozzle Set 57 ● (Gray)		Nozzle Set 58 ● (Beige)		Nozzle Set 59 ● (Black)	
	■ RED		■ RED		■ RED		■ BLACK		■ BLACK		■ BLACK		■ BLACK		■ BLACK	
Bar kPa kg/cm ²	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM
3,4 340 3,47	17,1	49	18,6	64	19,8	76	20,4	96	20,7	114	21,4	123	22,3	142	23,8	152
4,5 450 4,59	17,7	55	19,2	72	21,0	86	21,4	109	22,0	131	24,4	136	24,7	159	26,5	168
5,5 550 5,61	18,3	61	20,7	80	22,6	96	22,9	121	23,5	147	25,6	153	26,2	179	28,1	190
6,9 690 7,04	20,1	80	22,0	97	23,5	119	24,4	142	25,0	163	27,5	177	28,1	222	29,9	227
Black Stator													Green Stator		Red Stator	

Radius shown in meters
Sprinkler radius of throw per ASAE standard S398.1
■ Not recommended at this pressure
● = Main Nozzle ■ = Inner Nozzle

750 Series Performance Chart—U.S.

Base Pressure	Nozzle Set 52 ● (Orng)		Nozzle Set 53 ● (Brown)		Nozzle Set 54 ● (Blue)		Nozzle Set 55 ● (Green)		Nozzle Set 56 ● (Red)		Nozzle Set 57 ● (Gray)		Nozzle Set 58 ● (Beige)		Nozzle Set 59 ● (Black)	
	■ RED		■ RED		■ RED		■ BLACK		■ BLACK		■ BLACK		■ BLACK		■ BLACK	
psi	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM
50	56	13.0	61	16.8	65	20.0	67	25.3	68	30.0	70	32.5	73	37.4	78	40.1
65	58	14.5	63	19.1	69	22.8	70	28.9	72	34.6	80	35.8	81	41.9	87	44.5
80	60	16.1	68	21.1	74	25.3	75	32.0	77	38.9	84	40.3	86	47.4	92	50.2
100	66	21.2	72	25.6	77	31.4	80	37.6	82	43.0	90	46.8	92	58.6	98	60.1
Black Stator													Green Stator		Red Stator	

Radius shown in feet
Sprinkler radius of throw per ASAE standard S398.1
■ Not recommended at this pressure
● = Main Nozzle ■ = Inner Nozzle



Model 754

Ordering Information

Body Threads	Valve Type	Nozzle	Pressure Regulation*
0—NPT 4—ACME 5—BSP	1—Normally Open Hydraulic 2—Check-O-Matic 6—Electric	52 56 53 57 54 58 55 59	5—3,5 Bar (50 psi) 6—4,5 Bar (65 psi) 8—5,5 Bar (80 psi) 1—6,9 Bar (100 psi)

For Example:
When specifying a 754 Series Sprinkler with NPT threads, #54 nozzle, an electric valve and pressure regulation at 4,5 Bar (50 psi), you would order:

754-06-545

Toro 760 Series Sprinklers

17–24m (55'–78') Radius

Features

- Adjustable part-circle (30°–330°) and full-circle models available
- Arc adjustment from top of sprinkler
- Standard stainless steel riser resists scoring from embedded debris
- Full 75mm (3") pop-up clears tall grasses
- Nozzles color-coded by radius and gallonage
- Caps serve as yardage markers or effluent water indicators
- Variable stator
- Four standard pressure-regulation settings available to ensure consistently accurate nozzle performance:
 - 3,5, 4,5, 5,5 and 6,9 Bar (50, 65, 80 and 100 psi) (electric)
- Three body styles/activation types available to fit every application:
 - Electric Valve-In-Head
 - Normally Open Hydraulic Valve-In-Head
 - Check-O-Matic

- Manual control at the sprinkler, On-Off-Auto (electric)
- Bowl-vented discharge (atmospheric) minimizes the differential pressure required for regulation and ensures positive valve closure (electric)
- All internal components serviceable from the top of the sprinkler
- Large selection of color-coded nozzles available
- Effluent indicators available:
 - Cap (Part No. 89-8287)

760 Specifications

- Radius: 17–24m (55'–78')
- Flow rate: 44,3–155,9 LPM (11.7–41.2 GPM)
- 25mm (1") NPT female-threaded inlet, BSP and ACME threads available
- Adjustable part-circle (30°–330°) and full-circle models
- Dimensions:
 - Height: 255mm (10")



760 Series Performance Chart—Metric

Pressure			Nozzle Set 62 ● (Yellow)		Nozzle Set 63 ● (Blue)		Nozzle Set 64 ● (Brown)		Nozzle Set 65 ● (Orange)		Nozzle Set 66 ● (Green)		Nozzle Set 67 ● (Gray)		Nozzle Set 68 ● (Black)	
			● YELLOW	■ YELLOW	● BLUE	■ BLUE	● BROWN	■ BROWN	● ORNG	■ ORNG	● GREEN	■ GREEN	● GRAY	■ GRAY	● BLACK	■ BLACK
Bar	kPa	kg/cm ²	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM
3,4	340	3,47	16,8	44	17,7	50	18,6	64	19,2	76	19,8	87	20,4	101	20,7	108
4,5	450	4,59	17,7	51	19,5	56	20,1	71	20,7	87	21,7	101	22,0	116	22,3	125
5,5	550	5,61	18,6	56	19,8	62	21,0	80	22,0	97	22,6	111	22,9	130	23,2	138
6,9	690	7,04	19,2	62	20,1	70	21,4	91	22,6	107	23,2	125	23,5	145	23,8	156

Beige Stator

Radius shown in meters

Toro recommends the use of a 30mm (1 1/4") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1

Not recommended at this pressure

● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle

760 Series Performance Chart—U.S.

Base Pressure		Nozzle Set 62 ● (Yellow)		Nozzle Set 63 ● (Blue)		Nozzle Set 64 ● (Brown)		Nozzle Set 65 ● (Orange)		Nozzle Set 66 ● (Green)		Nozzle Set 67 ● (Gray)		Nozzle Set 68 ● (Black)		
		● YELLOW	■ YELLOW	● BLUE	■ BLUE	● BROWN	■ BROWN	● ORANGE	■ ORANGE	● GREEN	■ GREEN	● GRAY	■ GRAY	● BLACK	■ BLACK	
psi	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM
50	55	11.7	58	13.2	61	16.8	63	20.2	65	23.0	67	26.8	68	28.6		
65	58	13.4	64	14.8	66	18.8	68	23.1	71	26.6	72	30.7	73	33.0		
80	61	14.9	65	16.4	69	21.1	72	35.6	74	29.4	75	34.4	76	36.5		
100	63	16.3	66	18.6	70	24.0	74	28.3	76	32.9	77	38.4	78	41.2		

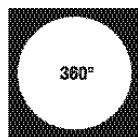
Beige Stator

Radius shown in feet

Toro recommends the use of a 30mm (1 1/4") swing joint at flows over 95 LPM (25 GPM). Sprinkler radius of throw per ASAE standard S398.1

Not recommended at this pressure

● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle



Model 764



Model 765

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information

76 X X X XX X				
Arc	Body Threads	Valve Type	Nozzle	Pressure Regulation*
4—Full-circle 5—Adjustable Part-circle	0—NPT 4—ACME 5—BSP	1—Normally Open Hydraulic 2—Check-O-Matic 6—Electric	62 66 63 67 64 68 65	5—3,5 Bar (50 psi) 6—4,5 Bar (65 psi) 8—5,5 Bar (80 psi) 1—6,9 Bar (100 psi)

For Example:

When specifying a 760 Series Sprinkler with a 360° arc, NPT threads, #62 nozzle, an electric valve and pressure regulation at 4,5 Bar (65 psi), you would order:

764-06-626

*Electric models only.

Toro 780 Series Sprinklers

17–26,5m (55'–87') Radius

Features

- Adjustable part-circle (30°–330°) and full-circle models available
- Arc adjustment from top of sprinkler
- Full 75mm (3") pop-up clears tall grasses
- Standard stainless steel riser resists scoring from embedded debris
- Nozzles color-coded by radius and gallonage
- Caps serve as yardage markers or effluent water indicators
- Four standard pressure-regulation settings available to ensure consistently accurate nozzle performance:
 - 3,5, 4,5, 5,5 and 6,9 Bar (50, 65, 80 and 100 psi) (electric)
- Three body styles/activation types available to fit every application:
 - Electric Valve-In-Head
 - Normally Open Hydraulic
 - Valve-In-Head
 - Check-O-Matic
- Manual control at the sprinkler, On-Off-Auto (electric)
- All internal components serviceable from the top of the sprinkler
- Large selection of color-coded nozzles available
- Effluent indicators available
 - Cap (Part No. 89-8288)

780 Specifications

- Radius: 17–26,5m (55'–87')
- Flow rate: 46,5–190 LPM (12.3–50.1 GPM)
- 40mm (1½") NPT female-threaded inlet, BSP and ACME threads available
- Adjustable part-circle (30°–330°) and full-circle models
- Dimensions:
 - Height: 280mm (11")



Attention: 700 Users

Conversion Assemblies

- Lower cost
- Higher pop-up
- Easier to adjust arc
- Easier to service

Quickly upgrades existing Toro sprinklers to provide all the features of the 800 Series sprinklers.



Ribbed Bodies
(for 650s, 670s and 750s built since 1993)



Non-Ribbed Bodies
(for 650s built prior to 1993)



780 Series Performance Chart—Metric

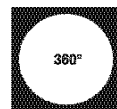
Pressure	Nozzle Set 82 ● (Yellow)		Nozzle Set 83 ● (Blue)		Nozzle Set 84 ● (Brown)		Nozzle Set 85 ● (Orange)		Nozzle Set 86 ● (Green)		Nozzle Set 87 ● (Gray)		Nozzle Set 88 ● (Black)		Nozzle Set 89 ● (Red)			
	● YELLOW	■ YELLOW	● BLUE	■ BLUE	● BROWN	■ BROWN	● ORNG	■ ORNG	● GREEN	■ GREEN	● GRAY	■ GRAY	● BLACK	■ BLACK	● RED	■ RED		
	Bar	kPa	kg/cm ²	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	
3,4	340	3,47	16,8	47	17,7	50	18,6	65	19,2	79	19,8	92	21,0	109	22,0	122	22,6	135
4,5	450	4,59	18,3	51	19,5	57	20,4	75	20,7	89	21,7	106	22,3	125	22,9	139	23,5	154
5,5	550	5,61	19,5	56	20,7	62	21,7	84	22,6	98	23,8	117	24,4	140	24,7	157	25,0	171
6,9	690	7,04	20,4	62	21,0	70	22,0	93	23,2	111	24,4	131	25,6	155	26,2	172	26,5	190
Beige Stator																		

Radius shown in meters
Sprinkler radius of throw per ASAE standard S398.1
■ Not recommended at this pressure
● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle

780 Series Performance Chart—U.S.

Base Pressure	Nozzle Set 82 ● (Yellow)		Nozzle Set 83 ● (Blue)		Nozzle Set 84 ● (Brown)		Nozzle Set 85 ● (Orange)		Nozzle Set 86 ● (Green)		Nozzle Set 87 ● (Gray)		Nozzle Set 88 ● (Black)		Nozzle Set 89 ● (Red)		
	● YELLOW	■ YELLOW	● BLUE	■ BLUE	● BROWN	■ BROWN	● ORANGE	■ ORANGE	● GREEN	■ GREEN	● GRAY	■ GRAY	● BLACK	■ BLACK	● RED	■ RED	
	psi	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM	Radius	GPM
50	55	12.3	58	13.2	61	17.2	63	20.8	65	24.4	69	28.8	72	32.2	74	35.7	
65	60	13.4	64	15.0	67	19.8	68	23.6	71	28.1	73	32.9	75	36.8	77	40.6	
80	64	14.9	68	16.4	71	22.1	74	25.9	78	30.9	80	36.9	81	41.4	82	45.2	
100	67	16.3	69	18.6	72	24.5	76	29.4	80	34.5	84	40.9	86	45.4	87	50.1	
Beige Stator																	

Radius shown in feet
Sprinkler radius of throw per ASAE standard S398.1
■ Not recommended at this pressure
● = Main Nozzle ● = Intermediate Nozzle ■ = Inner Nozzle



Ordering Information

78 X X X X X				
Arc	Body Threads	Valve Type	Nozzle	Pressure Regulation*
4—Full-circle 5—Adjustable Part-circle	0—NPT 4—ACME 5—BSP	1—Normally Open Hydraulic 2—Check-O-Matic 6—Electric	82 86 83 87 84 88 85 89	5—3,5 Bar (50 psi) 6—4,5 Bar (65 psi) 8—5,5 Bar (80 psi) 1—6,9 Bar (100 psi)

For Example:
When specifying a 780 Series Sprinkler with a 360° arc, NPT threads, #82 nozzle, an electric valve and pressure regulation at 4,5 Bar (65 psi), you would order:

784-06-826

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

*Electric models only.

Toro 720 Series Sprinklers

6,7–11,5m (22'–38') Radius

Features

- Adjustable-flow nozzle, 11,3–34 LPM (3–9 GPM)
- Trujectory™ radius adjustment
- Full-circle and adjustable part-circle (40°–360°) models available
- High pop-up height to clear taller grasses
- All adjustments made from the top—wet or dry
- Balanced precipitation rates
- Time-proven planetary gear-drive design
- Variable reversing stator
- All internal components serviceable from the top of the sprinkler with Servi-Snap™
- Durable engineering plastic and stainless steel construction
- Three body styles:
 - Electric Valve-In-Head
 - Normally Open Valve-In-Head
 - Check-O-Matic
- Effluent water indicators available
- ACME, NPT and BSP 25mm (1") body threads available

Specifications

- Radius: 6,7–11,5m (22'–38')
- Flow Rate: 9,7–40,6 LPM (2.60–10.75 GPM)
- Adjustable trajectory: 7°–25°
- Operating Pressure Range:
 - Normally Open: 2–6,2 Bar (40–90 psi)
 - Check-O-Matic: 2–6,2 Bar (40–90 psi)
 - Electric: 2–8,4 Bar (40–120 psi)
- Optimum nozzle performance @ 4,5 Bar (65 psi)
- Standard pressure regulation: 4,5 Bar (65 psi) (electric models only)
- 25mm (1") female-threaded inlet
- Check-O-Matic maintains up to 11,2m (37') of elevation change
- Dimensions:
 - Pop-up to center of nozzle plate: 73mm (2 7/8")
 - Body Height: 250mm (10")

Apex at 4,5 Bar (65 psi)

Nozzle GPM	25°		7°	
	Maximum Height of Spray	Distance from Head	Maximum Height of Spray	Distance from Head
3.0	2,8m (9'4")	6,7m (22')	0,4m (1'5")	3,0m (10')
4.0	2,9m (9'6")	6,7m (22')	0,5m (1'7")	3,7m (12')
4.5	3,2m (10'6")	8,2m (27')	0,5m (1'8")	4,0m (13')
6.0	3,4m (11'0")	8,5m (28')	0,6m (1'10")	4,3m (14')
8.0	3,5m (11'6")	9,1m (30')	0,6m (2')	4,6m (15')
9.0	3,7m (12'0")	9,4m (31')	0,6m (2')	4,6m (15')

The following nozzle sets may be used in combination to deliver a balanced precipitation rate.

720 MultiMatrx MPR Combination

#3	#6	OR	#3	#6
#4	#8	OR	#4	#8
#4.5	#9	OR	#4.5	#9

Combinations assume that all nozzles are operating at the same pressure. In addition, sprinklers can run off the same line if adequate flow exists.

Quickly upgrades existing Toro 600 and 700 Series sprinklers to the latest technology to provide all the features of our newest sprinklers.



720 MultiMatrx™ Nozzle Performance Data @ 25° Trajectory—Metric

Pressure			Nozzle Set - 3		Nozzle Set - 4		Nozzle Set - 4.5		Nozzle Set - 6		Nozzle Set - 8		Nozzle Set - 9	
Bar	kPa	Kg/cm ²	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)
3,5	350	3,57	9,8	11,5	10,1	15,8	10,7	18,1	11,3	22,7	11,7	28,4	12,5	31,0
4,5	450	4,59	9,8	13,0	10,7	17,8	11,0	20,5	11,9	26,1	12,8	32,7	13,4	36,6
5,5	550	5,61	9,8	14,4	10,7	19,8	11,3	22,7	11,9	29,1	12,8	36,8	14,3	40,6

Precipitation rates are shown in meters per hour calculated at 50% of diameter. Performance shown is based on zero wind conditions.

■ = Spacing not recommended above 11,6 m
 ■ = Pressure regulation models.

720 MultiMatrx™ Nozzle Performance Data @ 25° Trajectory—U.S.

Base Pressure	Nozzle Sets																							
	3		Prec. Rate		4		Prec. Rate		4.5		Prec. Rate		6		Prec. Rate		8		Prec. Rate		9		Prec. Rate	
PSI	Rad	GPM	△	□	Rad	GPM	△	□	Rad	GPM	△	□	Rad	GPM	△	□	Rad	GPM	△	□	Rad	GPM	△	□
50	32	3.00	.24	.28	33	4.16	.32	.37	35	4.75	.32	.37	37	5.95	.36	.42	38	7.43	.43	.50	41	8.14	.40	.47
65	32	3.42	.28	.32	35	4.69	.32	.37	36	5.41	.35	.40	39	6.87	.38	.43	42	8.61	.41	.47	44	9.67	.42	.48
80	32	3.81	.31	.36	35	5.25	.36	.41	37	6.02	.37	.42	39	7.71	.42	.49	42	9.75	.46	.53	47	10.75	.41	.47

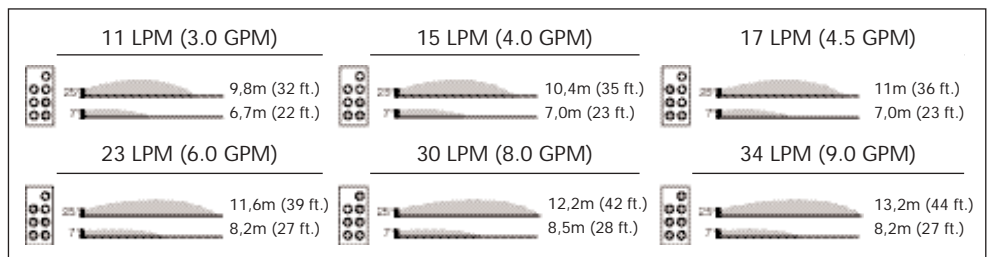
*△ Precipitation rates are for triangular spacing, shown in inches per hour, calculated at 50% of diameter.

* □ Precipitation rates are for square spacing, shown in inches per hour, calculated at 50% of diameter.

Performance shown is based on zero wind conditions.

■ = Spacing not recommended above 38'.
 ■ = Pressure regulation models.

MultiMatrx Nozzle—Trujectory Performance @ 4,5 Bar (65 psi)



Ordering Information

72X	X	X	39X	X
Arc	Body Threads	Valve-In-Head Type	Pressure Regulation*	Optional
4—Full-circle 5—Part-circle	0—NPT 4—ACME 5—BSP	1—Normally Open Hydraulic 2—Check-O-Matic 6—Electric	6—4,5 Bar (65 psi)	E—Effluent Model

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

For Example:
 When specifying a full-circle 720 Series Sprinkler with NPT threads, an electric valve and pressure regulation at 4,5 Bar (65 psi), you would order:

724-06-396

*Electric models only.

Toro 720G Series Sprinklers

6,0–11,5m (20'–38') Radius

Features

- Adjustable-flow nozzle, 3,7–34,0 LPM (1–9 GPM)
- Trujectory radius adjustment
- Full-circle and adjustable part-circle (40°–360°) models available
- High pop-up height to clear taller grasses
- All adjustments made from the top—wet or dry
- Matched precipitation rates
- Time-proven planetary gear-drive design
- Variable reversing stator
- All internal components serviceable from the top of the sprinkler with Servi-Snap™
- Durable engineering plastic and stainless steel construction

Specifications

- Recommended spacing: 6,0–11,5m (20'–38')
- Flow Rate: 4,27–43,3 LPM (1.13–11.46 GPM)
- Adjustable Trajectory: 7°–25°
- Operating Pressure Range: 2,8–6,2 Bar (40–90 psi)
- Optimum nozzle performance @ 4,5 Bar (65 psi)
- 18mm (¾") female-threaded inlet
- Check-O-Matic maintains up to 3,0M (10') of elevation change
- Dimensions:
 - Pop-up to center of nozzle plate: 67mm (2 ⅝")
 - Body Height: 178mm (7")

Apex at 4,5 Bar

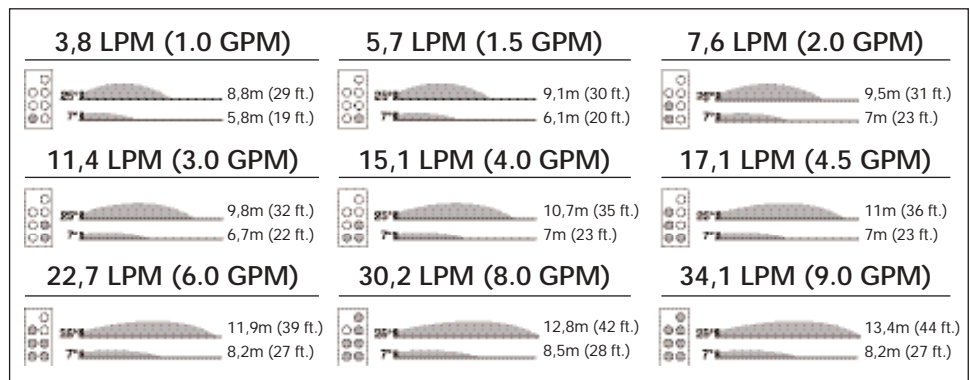
Nozzle GPM	25°		7°	
	Max. Height of Spray	Distance from Head	Max. Height of Spray	Distance from Head
1.0	2,3m	4,6m	0,4m	2,7m
1.5	2,3m	4,6m	0,4m	2,7m
2.0	2,5m	5,8m	0,4m	3,0m
3.0	2,8m	6,7m	0,4m	3,0m
4.0	2,9m	6,7m	0,5m	3,7m
4.5	3,2m	8,2m	0,5m	4,0m
6.0	3,4m	8,5m	0,6m	4,3m
8.0	3,5m	9,1m	0,6m	4,6m
9.0	3,7m	9,4m	0,6m	4,6m

Apex at 65 psi

Nozzle GPM	25°		7°	
	Max. Height of Spray	Distance from Head	Max. Height of Spray	Distance from Head
1	7' 8"	15'	1' 5"	9'
1.5	7' 8"	15'	1' 5"	9'
2	8' 4"	19'	1' 5"	10'
3	9' 4"	22'	1' 5"	10'
4	9' 6"	22'	1' 7"	12'
4.5	10' 6"	27'	1' 8"	13'
6	11'	28'	1' 10"	14'
8	11' 6"	30'	2'	15'
9	12'	31'	2'	15'



720G MultiMatrix Nozzle—Trujectory Performance @ 4,5 Bar (65 psi)



Unlike competitive sprinklers, the MultiMatrix nozzle features a matrix design that sprays water simultaneously from up to seven unique ports. Truly self-cleaning, these ports are manufactured from flexible aerospace materials. So sand and other particles pass right through without clogging or distorting the nozzle.

720G MultiMatrix MPR Combinations

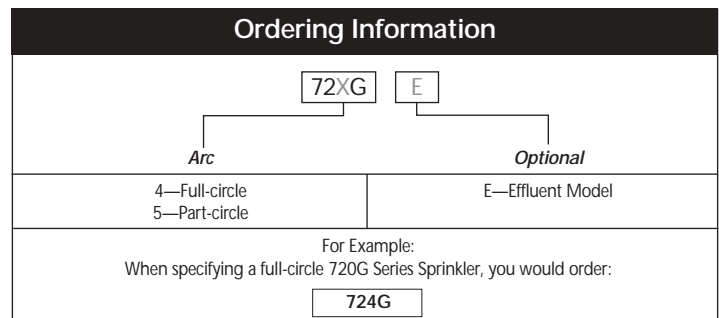
The following sets of nozzles may be used in combination to deliver a balanced precipitation rate.

#1	#2	#3	#4
#1.5	#3	#4.5	#6
#2	#4	#6	#8
#3	#6	#9	
#4	#8	OR #4	#8
#4.5	#9	OR #4.5	#9

Combinations assume that all nozzles are operating at the same pressure. In addition, sprinklers can run off the same line if adequate flow exists.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information



720G MultiMatrix™ Nozzle Performance Data @ 25° Trajectory—Metric

Pressure			Nozzle Set - 1		Nozzle Set - 1.5		Nozzle Set - 2		Nozzle Set - 3		Nozzle Set - 4		Nozzle Set - 4.5		Nozzle Set - 6		Nozzle Set - 8		Nozzle Set - 9	
Bar	kPa	Kg/cm ²	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)	Radius (m)	Flow (LPM)
2,75	275	2,81	8,8	4,28	8,8	5,68	9,1	7,91	9,4	9,84	9,8	13,7	10,4	15,4	10,4	19,5	10,4	24,6	11,3	27,1
3,0	300	3,06	8,8	4,41	8,8	5,92	9,1	8,23	9,4	10,5	9,8	14,5	10,4	16,3	10,6	20,6	10,6	25,8	11,7	28,4
3,5	350	3,57	8,8	4,72	8,8	6,40	9,2	8,92	9,8	11,5	10,1	15,8	10,7	18,1	11,3	22,7	11,7	28,4	12,5	31,0
4,0	400	4,08	8,8	4,96	9,0	6,84	9,4	9,48	9,8	12,4	10,4	16,7	11,0	19,3	11,6	24,6	12,2	30,7	13,2	33,5
4,5	450	4,59	8,8	5,27	9,1	7,24	9,5	9,97	9,8	13,0	10,7	17,8	11,0	20,5	11,9	26,1	12,8	32,7	13,4	36,6
5,0	500	5,10	8,8	5,51	9,1	7,68	9,8	10,4	9,8	13,6	10,7	18,9	11,3	21,7	11,9	27,9	12,8	35,0	14,2	38,4
5,5	550	5,61	8,8	5,71	9,1	8,08	9,8	11,0	9,8	14,4	10,7	19,8	11,3	22,7	11,9	29,1	12,8	36,8	14,3	40,6
6,0	600	6,12	8,8	5,91	9,1	8,27	9,8	11,3	9,8	14,9	10,7	20,6	11,4	23,8	12,2	30,5	12,9	38,5	14,4	42,6
6,25	625	6,38	8,8	5,99	9,1	8,43	9,8	11,5	9,8	15,3	10,7	21,0	11,6	24,5	12,2	31,3	13,1	39,4	14,7	43,5

Precipitation rates are shown in meters per hour calculated at 50% of diameter. Performance shown is based on zero wind conditions. = Spacing not recommended above 11,6 m.

720G MultiMatrix™ Nozzle Performance Data @ 25° Trajectory—U.S.

Base Pressure	Nozzle Sets																																			
	1		Prec. Rate		1.5		Prec. Rate		2		Prec. Rate		3		Prec. Rate		4		Prec. Rate		4.5		Prec. Rate		6		Prec. Rate		8		Prec. Rate		9		Prec. Rate	
	Rad	GPM	△*	□*	Rad	GPM	△	□	Rad	GPM	△	□	Rad	GPM	△	□	Rad	GPM	△	□	Rad	GPM	△	□	Rad	GPM	△	□	Rad	GPM	△	□	Rad	GPM	△	□
40	29	1.13	.11	.13	29	1.50	.15	.17	30	2.09	.19	.22	31	2.60	.23	.26	32	3.62	.29	.34	34	4.06	.29	.34	34	5.15	.37	.43	34	6.49	.47	.54	37	7.15	.44	.50
45	29	1.18	.12	.14	29	1.59	.16	.18	30	2.21	.20	.24	31	2.86	.25	.29	32	3.91	.32	.37	34	4.43	.32	.37	35	5.56	.38	.44	35	6.96	.47	.55	39	7.65	.42	.48
50	29	1.24	.12	.14	29	1.68	.17	.18	30	2.34	.22	.25	32	3.00	.24	.28	33	4.16	.32	.37	35	4.75	.32	.37	37	5.95	.36	.42	38	7.43	.43	.50	41	8.14	.40	.47
55	29	1.28	.13	.15	29	1.76	.17	.20	31	2.45	.21	.25	32	3.20	.26	.30	34	4.30	.31	.36	36	4.94	.32	.37	38	6.33	.37	.42	40	7.84	.41	.47	42	8.54	.40	.47
60	29	1.33	.13	.15	30	1.84	.17	.20	31	2.54	.22	.25	32	3.31	.27	.31	34	4.51	.33	.38	36	5.22	.34	.39	38	6.60	.38	.44	40	8.30	.43	.50	44	9.07	.39	.45
65	29	1.39	.14	.16	30	1.91	.18	.20	31	2.63	.23	.26	32	3.42	.28	.32	35	4.69	.32	.37	36	5.41	.35	.40	39	6.87	.38	.43	42	8.61	.41	.47	44	9.67	.42	.48
70	29	1.43	.14	.16	30	2.00	.19	.21	32	2.72	.22	.26	32	3.54	.29	.33	35	4.90	.33	.39	37	5.63	.34	.40	39	7.27	.40	.46	42	9.10	.43	.50	46	9.93	.39	.45
75	29	1.48	.15	.17	30	2.06	.19	.22	32	2.78	.23	.26	32	3.67	.30	.35	35	5.07	.35	.40	37	5.82	.35	.41	39	7.49	.41	.47	42	9.40	.44	.51	47	10.36	.39	.45
80	29	1.51	.15	.17	30	2.14	.20	.23	32	2.91	.24	.27	32	3.81	.31	.36	35	5.25	.36	.41	37	6.02	.37	.42	39	7.71	.42	.49	42	9.75	.46	.53	47	10.75	.41	.47
85	29	1.55	.15	.18	30	2.16	.20	.23	32	2.97	.24	.28	32	3.90	.32	.37	35	5.39	.37	.42	37	6.20	.38	.42	40	7.96	.41	.48	42	10.04	.47	.55	47	11.10	.42	.48
90	29	1.58	.16	.18	30	2.22	.21	.24	32	3.04	.25	.29	32	4.02	.33	.38	35	5.54	.38	.44	38	6.45	.37	.44	40	8.24	.43	.50	43	10.36	.47	.54	48	11.46	.41	.48

*△ Precipitation rates are for triangular spacing, shown in inches per hour, calculated at 50% of diameter.
 *□ Precipitation rates are for square spacing, shown in inches per hour, calculated at 50% of diameter.
 Performance shown is based on zero wind conditions.
 = Spacing not recommended above 38'.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Toro 2001 Series Sprinklers

15,3–21,7m (48'–71') Radius

Features

- Arc adjustable from the top (30°–360°)
- Screw-in nozzles—no adjustment screw required for retention
- Color-coded nozzle tree for easy identification and installation
- Six main nozzles and two inner nozzles provided with each sprinkler
- 102mm (4") pop-up
- Smart Arc™ memory feature returns arc to previous setting (even if nozzle is turned beyond setting)
- Rubber cover minimizes impact damage
- Unique, over-molded riser seal for greater debris resistance
- Check valve prevents low-head drainage and keeps laterals charged with water (standard on all models)
- Bi-directional, planetary, water-lubricated, ear-drive design provides extended life
- Snap ring designed for ease of maintenance
- Stainless steel riser available, ideal for sandy applications
- Recycled water models available
- Five-year warranty

Specifications

- Flow rate: 21,1–118,5 LPM (5.6–31.3 GPM)
- Recommended operating pressure range: 2,8–4,2 Bar (40–60 psi)
- Maximum operating pressure: 7 Bar (100 psi)
- Pop-up to main nozzle: 95mm (3¾")
- Trajectory: 25°
- 25mm (1") NPT female-threaded inlet, BSP threads available
- Dimensions:
 - Body diameter: 63,5mm (2.50")
 - Exposed diameter: 76,2mm (3")
 - Height: 215mm (8.50")
- Standard check valve maintains up to 3m (10') elevation change
- Precipitation rate: 5–16mm (0.20"–0.63") per hour



Options Available

- Effluent markings
- Stainless steel riser
- NPT or BSP threads

2001 Series Sprinklers Apex @ 4,2 Bar (60 psi)

Nozzle	25°	
	Max. Height of Spray	
6	3,5m (11' 6")	
9	4,1m (13' 10")	
12	4,0m (13' 5")	
15	4,2m (14')	
18	4,3m (14' 2")	
24	4,6m (15')	



2001 Series Performance Chart—Metric

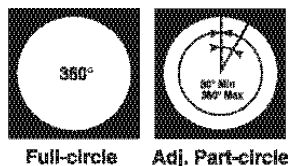
Base Pressure			Nozzle Set 6 Yellow		Nozzle Set 9 Orange		Nozzle Set 12 Brown		Nozzle Set 15 Black		Nozzle Set 18 Blue		Nozzle Set 24 Green	
Bar	kPa	Kg/cm ²	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM	Radius	LPM
2,75	275	2,80	14,6	21,2	14,9	30,7	15,2	38,6	15,8	47,7	16,5	55,6	17,4	69,3
3,0	300	3,06	14,8	22,4	15,1	32,1	15,2	40,6	16,2	50,2	16,9	58,4	17,6	73,0
3,5	350	3,57	15,3	24,8	15,6	35,1	15,9	44,6	16,8	55,3	17,7	64,2	18,0	80,5
4,0	400	4,08	15,5	26,4	15,8	37,8	16,1	48,2	17,2	59,7	17,9	69,9	18,2	86,5
4,5	450	4,59	15,7	28,1	16,0	40,4	16,3	51,6	17,9	63,9	18,3	74,9	19,1	92,3
5,0	500	5,10	16,0	29,7	16,3	42,9	16,8	54,7	18,4	68,0	18,9	79,7	20,0	98,3
5,5	550	5,61	16,4	31,4	16,7	45,3	17,6	57,4	18,9	72,1	19,8	84,6	20,7	105,0
6,0	600	6,12	16,7	33,0	17,4	47,3	17,9	60,4	19,1	75,5	20,2	88,7	21,2	109,0
6,5	650	6,63	16,9	34,5	17,8	49,5	18,1	64,7	19,3	78,8	20,7	92,7	21,5	114,0
7,0	700	7,14	17,1	35,6	18,0	51,5	18,3	68,9	19,5	81,4	21,0	95,8	21,7	119,0

Radius shown in meters.
All performance specifications are based on stated working pressure available at the base of the sprinkler.
Sprinkler radius of throw per ASAE standard S398.1

2001 Series Performance Chart—U.S.

Base Pres.	Nozzle Set 6 Yellow				Nozzle Set 9 Orange				Nozzle Set 12 Brown				Nozzle Set 15 Black				Nozzle Set 18 Blue				Nozzle Set 24 Green			
	psi	Feet	GPM	△ □	Feet	GPM	△ □	Feet	GPM	△ □	Feet	GPM	△ □	Feet	GPM	△ □	Feet	GPM	△ □	Feet	GPM	△ □		
40	48	5.6	0.20	0.23	49	8.1	0.28	0.32	50	10.2	0.34	0.39	52	12.6	0.39	0.45	54	14.7	0.42	0.48	57	18.3	0.47	0.54
50	50	6.5	0.22	0.25	51	9.2	0.29	0.34	52	11.7	0.36	0.42	55	14.5	0.40	0.46	58	16.8	0.42	0.48	59	21.1	0.51	0.58
60	51	7.1	0.23	0.26	52	10.2	0.31	0.36	53	13.0	0.39	0.44	57	16.1	0.41	0.48	59	18.9	0.45	0.52	60	23.3	0.54	0.62
70	52	7.7	0.24	0.27	53	11.1	0.33	0.38	54	14.2	0.41	0.47	60	17.6	0.41	0.47	61	20.6	0.46	0.53	65	25.4	0.50	0.58
80	54	8.3	0.24	0.27	55	12.0	0.33	0.38	58	15.2	0.38	0.44	62	19.2	0.41	0.48	65	22.4	0.44	0.51	68	27.7	0.50	0.58
90	55	8.9	0.25	0.28	58	12.7	0.31	0.36	59	16.3	0.39	0.45	63	20.3	0.42	0.49	67	23.9	0.44	0.51	70	29.3	0.50	0.58
100	56	9.4	0.26	0.29	59	13.6	0.33	0.38	60	18.2	0.39	0.45	64	21.5	0.44	0.51	69	25.3	0.44	0.51	71	31.3	0.52	0.60

△ Precipitation rates are for triangular spacing, shown in inches per hour, calculated at 50% of diameter.
□ Precipitation rates are for square spacing, shown in inches per hour, calculated at 50% of diameter.
All performance specifications are based on the stated working pressure available at the base of the sprinkler.
Sprinkler radius of throw per ASAE standard S398.1



2001 is a registered trademark of The Toro Company

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information

2001

Optional **Arc** **Body Thread** **Optional**

S—Stainless steel	Blank—Adjustable Arc, 30-360° F—Full-circle, 360°	Blank—NPT BSP—BSP	E—Effluent Indicator Cap
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For Example:
When specifying a stainless steel 2001 Series Sprinkler with an adjustable arc and effluent indicator cap, you would order:

S-2001-E



Toro 220 Series Brass Valves

25–75mm (1"–3") Electric and 25–75mm (1"–3") Pressure-regulating Models

Features

- 15 Bar (220-psi) maximum pressure rating
- Ingot brass and stainless steel construction
- Easily removable, self-flushing, 120-mesh, stainless steel filter screen
- Pressure regulates in electric and manual modes, serviceable under pressure
- Precise pressure control option with compact EZReg dial-design technology (factory- or field-installed—no need to remove solenoid)
- Forward-flow design for more precise pressure regulation
- Anti-vandal dust cap on pressure-regulating models
- Standard, built-in Schrader-type valve for downstream pressure verification
- No external tubing
- Internal downstream manual bleed keeps valve box dry
- External manual bleed for system flushing
- Manual flow control: adjustable to zero flow
- Flow control independent of solenoid
- Tough, double-beaded, fabric-reinforced rubber diaphragm rated at 50 Bar (750-psi) burst pressure
- Stainless steel diaphragm support ring for reduced wear
- Diaphragm stem guide
- 45cm (18") lead wires for easy installation (standard)
- Low-power requirement for longer wire runs
- Easily serviced without system removal
- Proven, encapsulated, injection-molded solenoid with captured hex plunger and spring
- Less solenoid options for maximum flexibility
- Recycled water solenoid assembly available
- Recycled models available
- Five-year warranty



Specifications

- Flow range:
 - 25mm—25–150 LPM (1"–5–40 GPM)
 - 32mm—75–350 LPM (1 1/4"–20–100 GPM)
 - 40mm—75–450 LPM (1 1/2"–20–130 GPM)
 - 50mm—125–700 LPM (2"–30–180 GPM)
 - 65mm—250–900 LPM (2 1/2"–60–250 GPM)
 - 75mm—300–1400 LPM (3"–80–350 GPM)
- Operating pressure:
 - Electric—1,7–15 Bar (10–220 psi)
- Pressure-regulating models:
 - Outlet:
 - 0,3–2,0 Bar (5–30 psi), ± 0,2 Bar (3 psi) (EZR-30)
 - 0,3–7,0 Bar (5–100 psi), ± 0,2 Bar (3 psi) (EZR-100)
 - Inlet: 1–15 Bar (15–220 psi)
 - Minimum pressure differential (between inlet and outlet): 0,7 Bar (10 psi)
- Burst pressure safety rating: 50 Bar (750 psi)
- Body styles:
 - Globe valve—25, 32, 40, 50mm (1", 1 1/4", 1 1/2", 2") female-threaded inlet and outlet
 - Angle valve—65, 75mm (2 1/2", 3") female threaded inlet and outlet
 - BSP threads available
- Solenoid: 24 V ac (50/60Hz)
 - Inrush: 0.40 amps, 11.50 VA
 - Holding: 0.20 amps, 5.75 VA



220-27-00 220-27-08 220-27-06 220-26-04

- Dimensions:
 - 25mm—145 x 125mm, H x W (1"–5 1/4" x 5", H x W)
 - 32mm—163 x 150mm, H x W (1 1/4"–6 1/2" x 6", H x W)
 - 40mm—165 x 150mm, H x W (1 1/2"–6 1/2" x 6", H x W)
 - 50mm—191 x 178mm, H x W (2"–7 1/2" x 7", H x W)
 - 65mm—223 x 216mm, H x W (2 1/2"–8 3/4" x 8 1/2", H x W)
 - 75mm—223 x 216mm, H x W (3"–8 3/4" x 8 1/2", H x W)



For optimum performance with high-pressure applications, use a flow-controlled valve to reduce pressure. Use a pressure-regulating valve for consistent downstream pressure.

Ordering Information

Type	Configuration	Solenoid	Size
220—220 Series Brass Valve	3—BSP, Electric 4—BSP, Pressure-regulated (0,3-6,9 Bar [5–100 psi]) 6—NPT, Electric 7—NPT, Pressure-regulated (0,3-6,9 Bar [5–100 psi])	0—60 Hz Solenoid 5—50 Hz Solenoid 6—Less Solenoid	4—25mm (1") 5—32mm (1 1/4") 6—40mm (1 1/2") 8—50mm (2") 9—65mm (2 1/2") 0—75mm (3")
For Example: When specifying a 25mm (1") 220 Series Brass Electric, Pressure-regulating Valve, you would order:			
<div style="border: 1px solid black; padding: 2px; display: inline-block;">220-27-04</div>			

Less solenoid available in 25, 40, 50 and 75mm (1", 1 1/4", 2" and 3") electric NPT and BSP versions only. 25, 40 and 50mm (1", 1 1/4" and 2")—globe configuration. 65 and 75mm (2 1/2" and 3")—angle configuration.

220 Series Friction Loss Data—Metric

Model	Type	LPM Flow																				
		25	50	75	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400	
25mm (1")	Electric	0,15	0,13	0,17	0,31	0,41	0,48															
32mm (1 1/4")	Electric			0,38	0,42	0,47	0,51	0,56	0,61	0,88	1,03											
40mm (1 1/2")	Electric			0,32	0,33	0,36	0,37	0,42	0,47	0,55	0,64	0,79	1,02									
50mm (2")	Electric					0,09	0,14	0,15	0,19	0,24	0,35	0,44	0,51	0,59	0,75	1,00						
65mm (2 1/2")	Electric								0,15	0,16	0,16	0,17	0,17	0,19	0,24	0,33	0,40	0,46				
75mm (3")	Electric									0,16	0,16	0,17	0,17	0,19	0,24	0,33	0,40	0,43	0,46	0,49	0,53	

Notes: For optimum performance when designing a system, calculate total friction loss to ensure sufficient downstream pressure. For optimum regulation performance, size regulating valves toward the higher flow ranges. Values shown in bar.

220 Series Friction Loss Data—U.S.

Model	Type	GPM Flow																				
		5	10	15	20	30	40	50	60	70	80	100	120	150	170	180	200	250	300	350		
1" (25mm)	Electric	2.0	2.5	1.5	2.5	5.5	7.0															
1 1/4" (32mm)	Electric				5.5	6.5	7.5	8.0	8.5	9.0	13.0	16.0										
1 1/2" (40mm)	Electric				4.0	5.2	5.4	6.0	6.5	7.0	8.0	10.0	15.0									
2" (50mm)	Electric					1.0	2.0	2.0	2.5	3.0	3.5	6.0	7.5	10.0	12.0	14.0						
2 1/2" (65mm)	Electric								2.0	2.2	2.3	2.4	2.5	3.0	4.0	4.5	5.5	7.0				
3" (75mm)	Electric											2.2	2.4	2.5	3.0	4.0	4.5	5.5	6.5	7.0	7.5	

Notes: For optimum performance when designing a system, calculate total friction loss to ensure sufficient downstream pressure. For optimum regulation performance, size regulating valves toward the higher flow ranges. Values shown in psi.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Toro 210 Series Brass Valves

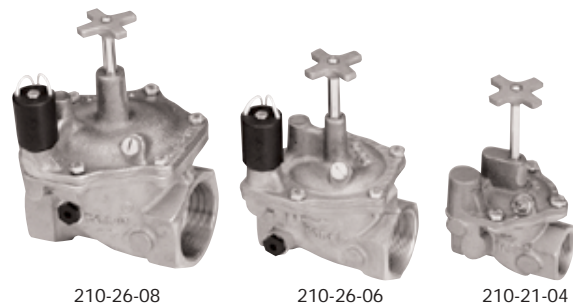
25–50mm (1"–2") Electric and 25–50mm (1"–2") Normally Open Hydraulic Models

Features

- 15 Bar (220-psi) maximum pressure rating
- Ingot brass and stainless steel construction
- Easily removable, self-flushing, 120-mesh, stainless steel filter screen
- No external tubing
- External manual bleed for system flushing
- Manual flow control: adjustable to zero flow
- Flow control independent of solenoid
- Tough, double-beaded, fabric-reinforced rubber diaphragm rated at 50 Bar (750-psi) burst pressure
- Stainless steel diaphragm support ring for reduced wear
- Diaphragm stem guide
- Proven solenoid with captured hex plunger (standard)
- Stainless steel solenoid seat for longer life and positive shutoff
- 45cm (18") lead wires for easy installation
- Low-power requirement for longer wire runs
- Recycled water solenoid assembly available
- Five-year warranty

Specifications

- Flow range:
 - 25mm—25–150 LPM (1"—5–40 GPM)
 - 32mm—75–350 LPM (1¼"—20–100 GPM)
 - 40mm—75–450 LPM (1½"—20–130 GPM)
 - 50mm—125–681 LPM (2"—30–180 GPM)
- Operating pressure:
 - Electric—1,4–15 Bar (10–220 psi)
 - Hydraulic—1,4–15 Bar (10–220 psi)
- Burst pressure safety rating: 50 Bar (750 psi)
- Body styles:
 - Globe/Angle valve—25, 32, 40, 50mm (1", 1¼", 1½", 2") female-threaded inlet and outlet
 - BSP threads available
- Solenoid: 24 V ac (50/60Hz)
 - Inrush: 0.40 amps, 11.50 VA
 - Holding: 0.20 amps, 5.75 VA
- Dimensions:
 - 25mm—145 x 88mm, H x W (1"—5¾" x 3½", H x W)
 - 32mm—165 x 114mm, H x W (1¼"—6½" x 4½", H x W)
 - 40mm—165 x 114mm, H x W (1½"—6½" x 4½", H x W)
 - 50mm—191 x 125mm, H x W (2"—7½" x 5", H x W)



For optimum performance with high-pressure applications, use a flow-controlled valve to reduce pressure.

Use a pressure-regulating valve for consistent downstream pressure.

Ordering Information

Type	Configuration	Solenoid	Size
210—210 Series Brass Valve	1—Normally Open Hydraulic 3—BSP, Electric 6—NPT, Electric	0—60 Hz Solenoid 5—50 Hz Solenoid	4—25mm (1") 5—32mm (1¼") 6—40mm (1½") 8—50mm (2")

For Example:
When specifying a 25mm (1") 210 Series Brass Electric, NPT Valve , you would order:
210-26-04

Less solenoid models available in NPT versions only. Hydraulic models available in NPT versions only. All sizes—globe configuration.

210 Series Friction Loss Data—Metric

Model	Type	LPM Flow														
		25	50	75	100	125	150	200	250	300	350	400	450	500	600	700
1" (25mm)	Hydraulic	<0,1	<0,1	0,17	0,31	0,41	0,48									
1¼" (32mm)	Hydraulic			0,14	0,17	0,21	0,25	0,35	0,50	0,71	0,83					
1½" (40mm)	Hydraulic			<0,1	<0,1	0,12	0,17	0,24	0,33	0,54	0,70	0,84				
2" (50mm)	Hydraulic					<0,1	<0,1	<0,1	0,15	0,20	0,31	0,41	0,48	0,57	0,73	1,05
1" (25mm)	Electric	0,15	0,13	0,17	0,31	0,41	0,48									
1¼" (32mm)	Electric			0,38	0,42	0,47	0,51	0,56	0,61	0,88	1,03					
1½" (40mm)	Electric			0,32	0,33	0,36	0,37	0,42	0,47	0,55	0,4	0,79	1,02			
2" (50mm)	Electric					0,09	0,14	0,15	0,19	0,24	0,35	0,44	0,51	0,59	0,75	1,00

Note: For optimum performance when designing a system, calculate total friction loss to ensure sufficient downstream pressure. Values shown in bar. For kPa values, multiply tabular values by 100. For Kg/cm² values, multiply tabular values by 1,02.

210 Series Friction Loss Data—U.S.

Model	Type	GPM Flow															
		5	10	15	20	30	40	50	60	70	80	100	120	150	170	180	200
1" (25mm)	Hydraulic		<1	<1	1.5	2.5	5.5	7.0									
1¼" (32mm)	Hydraulic				2.0	2.7	3.7	4.8	6.0	8.0	10.5	13.0					
1½" (40mm)	Hydraulic				<1	1.5	2.5	3.0	4.5	5.0	8.0	11.5	14.0				
2" (50mm)	Hydraulic						<1	1.0	1.1	1.5	2.5	3.0	5.5	7.0	10.0	11.5	14.5
1" (25mm)	Electric	2.0	2.5	1.5	2.5	5.5	7.0										
1¼" (32mm)	Electric				5.5	6.5	7.5	8.0	8.5	9.0	13.0	16.0					
1½" (40mm)	Electric				4.0	5.2	5.4	6.0	6.5	7.0	8.0	10.0	15.0				
2" (50mm)	Electric					1.0	2.0	2.0	2.5	3.0	3.5	6.0	7.5	10.0	12.0	14.0	

Note: For optimum performance when designing a system, calculate total friction loss to ensure sufficient downstream pressure. Values shown in psi.

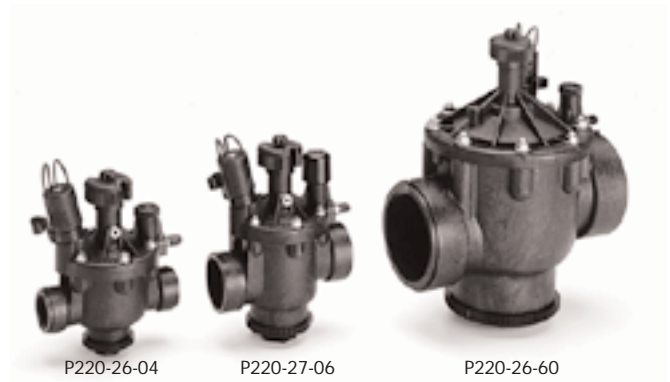
Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Toro P-220 Series Plastic Valves

25–75mm (1"–3") Electric and 25–75mm (1"–3") Pressure-regulating Models

Features

- 15 Bar (220-psi) maximum pressure rating
- Tough, 33% glass-filled nylon (GFN) and stainless steel construction
- Globe/Angle configuration
- Rugged, reinforced bonnet design withstands tough and high-pressure applications
- Precise pressure control option with compact EZReg dial-design technology (factory- or field-installed—no need to remove solenoid)
- Pressure regulates in electric and manual modes, serviceable under pressure
- Forward-flow design for more precise regulation
- Standard, built-in Schrader-type valve for downstream pressure verification
- Anti-vandal dust cap on pressure-regulating models
- No external tubing for either electric or pressure-regulating models
- Internal downstream manual bleed keeps valve box dry
- External manual bleed for system flushing
- Ergonomic manual flow control: adjustable to zero flow
- Flow control independent of solenoid
- Tough, double-beaded, fabric-reinforced rubber diaphragm rated at 50 Bar (750-psi) burst pressure
- Self-aligning bonnet to ensure correct installation
- Stainless steel spare nut for convenience
- Skirt on flow control for debris resistance
- Self-cleaning, stainless steel metering rod
- Brass flow control stem—50 and 75mm (2" and 3") models
- Positive O-ring seal on inlet plug prevents leaks
- Low-flow capability down to 20 LPM (5 GPM)
- Easily serviced without system removal
- Proven, encapsulated, injection-molded solenoid with captured hex plunger and spring
- Low-power requirement for longer wire runs
- 45cm (18") lead wires for easy installation
- Recycled water solenoid assembly available
- Five-year warranty



Specifications

- Flow range:
 - 25mm—20–200 LPM (1"–5–50 GPM)
 - 40mm—120–400 LPM (1½"–30–110 GPM)
 - 50mm—300–680 LPM (2"–80–180 GPM)
 - 75mm—600–1100 LPM (3"–150–300 GPM)
- Operating pressure:
 - Electric: 0,7–15 Bar (10–220 psi)
- Pressure regulating models:
 - Outlet: EZR-30 0,3–2,0 Bar, ± 0,2 Bar (5–30 psi, ± 3 psi)
 - Outlet: EZR-100 0,3–7,0 Bar, ± 0,2 Bar (5–100 psi, ± 3 psi)
 - Inlet: 1,0–15 Bar (15–220 psi)
- Minimum pressure differential (between inlet and outlet required for regulation): 0,7 Bar (10 psi)
- Burst pressure safety rating: 50 Bar (750 psi)
- Body styles:
 - Globe/angle valve—25, 40, 50, and 75mm (1", 1½", 2" and 3") female-threaded inlet and outlet
- BSP threads available
- Solenoid: 24 V ac (standard)
 - Inrush: 0.40 amps, 11.50 VA
 - Holding: 0.20 amps, 5.75 VA
- Dimensions:
 - 25mm—171 x 92mm, H x W (1"–6¾" x 3⅝", H x W)
 - 40mm—184 x 92mm, H x W (1½"–7¼" x 3⅝", H x W)
 - 50mm—241 x 156mm, H x W (2"–9½" x 6⅞", H x W)
 - 75mm—273 x 156mm, H x W (3"–10¾" x 6⅞", H x W)

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information			
Type	Configuration	Solenoid	Size
P220—220 Series Plastic Valve	3—BSP, Electric 4—BSP, Pressure-regulated (5–100) 6—NPT, Electric 7—NPT, Pressure-regulated (5–100)	0—60 Hz Solenoid 5—50 Hz Solenoid 6—Less Solenoid	4—25mm (1") 6—40mm (1½") 8—50mm (2") 0—75mm (3")
For Example:			
When specifying a 25mm (1") P-220 Series Plastic Electric, Pressure-regulating Valve with 60 Hz solenoid, you would order:			
P220-27-04			

Less solenoid available in 25, 40, 50 and 75mm (1", 1½", 2", and 3") electric NPT and BSP versions only.

P-220 Series Friction Loss Data—Metric

Size	Configuration	LPM Flow																					
		40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600	700	800	900	1000	1100
25mm (1")	Globe	0,29	0,25	0,25	0,26	0,32	0,43	0,55	0,69	0,82													
	Angle	0,29	0,35	0,21	0,20	0,21	0,29	0,38	0,49	0,61													
40mm (1½")	Globe					0,12	0,14	0,18	0,23	0,28	0,43	0,62	0,85	1,11									
	Angle					0,09	0,10	0,13	0,17	0,22	0,34	0,48	0,65	0,85									
50mm (2")	Globe											0,14	0,20	0,25	0,32	0,40	0,48	0,54					
	Angle											0,08	0,12	0,15	0,19	0,24	0,29	0,32					
75mm (3")	Globe																	0,18	0,24	0,32	0,41	0,52	0,65
	Angle																	0,14	0,19	0,26	0,34	0,43	0,54

Note: For optimum performance when designing a system, be sure to calculate total friction loss to ensure sufficient downstream pressure.
For optimum regulation performance, size regulating valves toward the higher flow ranges.
Values shown in bar. For kPa values, multiply tabular values by 100. For Kg/cm² values, multiply tabular values by 1,02.

P-220 Series Friction Loss Data—U.S.

Size	Configuration	GPM Flow																					
		5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	180	200	225	250	275	300
1" (25mm)	Globe	4.00	4.20	3.20	4.10	7.20	10.90																
	Angle	4.00	4.20	3.10	2.70	4.80	7.90																
1½" (40mm)	Globe				1.60	2.30	3.60	5.20	7.00	9.20	11.70	14.40	17.50										
	Angle				1.30	1.60	2.80	4.00	5.50	7.10	9.00	11.00	13.30										
2" (50mm)	Globe									2.10	2.70	3.30	4.00	4.80	5.60	6.50	7.50	8.05					
	Angle									1.20	1.60	2.00	2.40	2.80	3.30	3.90	4.40	5.10					
3" (75mm)	Globe																2.50	3.00	4.10	5.30	6.70	8.30	10.10
	Angle																1.90	2.40	3.30	4.30	5.50	6.90	8.50

Note: For optimum performance when designing a system, be sure to calculate total friction loss to ensure sufficient downstream pressure.
For optimum regulation performance, size regulating valves toward the higher flow ranges.
Values shown in psi.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Toro 470 Series Quick Coupling Valves

Features

- Provides a range of flows to meet all performance requirements
- One- or two-piece (474 only) valves with heavy-duty brass construction
- Single-lug and ACME thread key connections
- Metal and vinyl locking and non-locking covers
- Locking recycled cover
- Hose swivel provides 360° movement without hose tangling
- Two-year warranty



470 Series Friction Loss Data—Metric

	LPM Flow										
	35	50	75	100	125	150	175	225	275	325	375
Model 473	0,1	0,2	0,4	0,6							
Model 474			0,1	0,2	0,3	0,5					
Model 475				0,1	0,2	0,2	0,4	0,6			
Model 476						0,1	0,1	0,2	0,3	0,4	0,6

Note: For optimum sprinkler performance when designing a system, be sure to calculate total friction loss to ensure sufficient downstream pressure. Values listed in bar. For kPa values, multiply tabular values by 100. For Kg/cm² values, multiply tabular values by 1,02.

470 Series Friction Loss Data—U.S.

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

Note: For optimum sprinkler performance when designing a system, be sure to calculate total friction loss to ensure sufficient downstream pressure. Values listed in psi.

Ordering Information Quick Coupler Valves

Model Number	Description
473-00	20mm (¾") Standard Cover
474-00	25mm (1") Standard Cover
474-01	25mm (1") Vinyl Cover
474-03	25mm (1") Vinyl Cover w/Lock
475-00	25mm (1") IPT x 30mm (1¼") Standard Cover
475-01	25mm (1") IPT x 30mm (1¼") Vinyl Cover
476-00	40mm (1½") Standard Cover
476-01	40mm (1½") Vinyl Cover
474-21	2-piece, 25mm (1") Single Lug, Vinyl Cover
474-04	1-piece, 25mm (1") Quick Coupler w/Effluent Locking Cover
474-24	2-piece, 25mm (1") Quick Coupler w/Effluent Locking Cover
474-44	1-piece, 25mm (1") Acme Thread Quick Coupler w/Effluent Locking Cover
476-04	1-piece, 40mm (1½") Quick Coupler w/Effluent Locking Cover

Ordering Information Quick Coupler Keys and Accessories

Model Number	Inlet Size	Description
463-01	20mm (¾")	13mm (½") Female, 20mm (¾") Male, Single Lug Coupler Key
464-01	25mm (1")	20mm (¾") Female, 25mm (1") Male, Single Lug Coupler Key
464-02	25mm (1")	25mm (1") Female, Single Lug Coupler Key
464-03	25mm (1")	25mm (1") Acme Thread Coupler Key
466-01	40mm (1½")	30mm (1¼") Female, 40mm (1½") Male, Single Lug Coupler Key
477-00		20mm (¾") NPT x 20mm (¾") MHT Hose Swivel
477-01		25mm (1") NPT x 20mm (¾") MHT Hose Swivel
477-02		25mm (1") NPT x 25mm (1") MHT Hose Swivel
491-02		Key for Locking Cover

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

CENTRALS





SitePro Puts You in Control.

With SitePro, you are in control. Tedious keystrokes and layers of spreadsheets are replaced with the point-and-click simplicity of the easy-to-use Windows operating system.

SitePro is irrigation management for the Information Age. Simple. Powerful. Dependable. Toro.

Easy-to-use daily operation and scheduling.

Create unique programs, balance your hydraulic system and make adjustments easily:

- Adjust schedules, run times, programs and flow
- Manually start a station
- Check weather station data
- Build reports without getting lost in your system



And now you can review all key program data and make specific adjustments from one screen.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Create unique watering programs.

This is the start of control. From this screen you'll set up all of the programs that run your irrigation system. Create programs down to the station level that are as individual as every rolling berm and dog-leg on your course.



Program Review and Run Time Review shows key information at a glance.

With the Program Review and Run Time Review screens, you can review and make necessary adjustments to every program and every run time in your entire system. You'll use these simple, information-packed screens every day to put all your important system data at your fingertips.

Program Review gives you the top-level view you need to manage your overall irrigation.



Program Review lets you view and modify:

- All programs available in your system
- Active status of each program
- Percent adjustments
- Number of starts and repeats
- Soak time

Run Time Review takes you into the heart of your system so you can make station-specific adjustments to meet the unique needs of distinct areas of your course.



From Program Review, quickly toggle over to Run Time Review to make station-level adjustments.

Optimize your hydraulic system to optimize your resources.

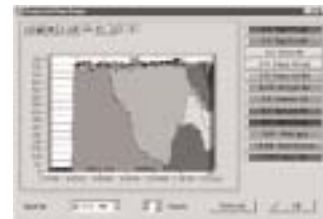
Using a graphical, multi-level hydraulic tree (much like Windows Explorer), define your hydraulic flow demand limits through mainlines, branches and flow zones.

SitePro balances your system resources—applying water effectively and efficiently by reducing undesirable water hammer and low-pressure conditions. SitePro turns on the right number of stations at the right time to optimize flow and reduce your watering window. So you can be sure your investment in equipment is protected and your system is operating the way it was designed.



And with Toro's exclusive Electro-Flow™ flow management system, you can manage both hydraulic flow and electric current demands to optimize the water window for maximum effectiveness and efficiency.

Using Toro's exclusive easy-to-review, three-dimensional graphics, this full-color projected flow screen allows you to see how your programs will run.



Respond to pump station problems when they happen.

Partnering with leading pump manufacturers*, Toro has built in a way for you to determine whether or not your pump station is working properly, with real-time pressure and flow information. SitePro's superior control logic lets you define alarm conditions and set appropriate reactions so your system can now respond to pump system problems *when they happen*. When you reduce hard-starts and pressure spikes at startup, your cost savings in electricity and water usage can be substantial.

**SitePro has been tested and approved for use with PSI/Flowtronex's Pump Log and Watertronics' Watervision.*



Extensive reporting capabilities.

Our real-time reporting tools allow you to select information easily from any combination of databases and assemble them for clear, concise management reports. And a utility in T.Map lets you print location-specific work orders that will keep your crew working productively.





Toro SitePro Central Enhancements

Additions to the Scheduled Activity Screen

Available Now



For convenience, a new print button was added to the Scheduled Activity screen. In addition, filters were included, allowing you to see specific scheduled activity for satellites, programs and flow.

Program Review Screen

Available Now



The Program Review screen lets you view and modify functions such as programs, active status, percent adjustments, number of starts, and repeats and soak times. Use this top-level view to easily manage your overall system.

Other Enhancements for Ease of Daily Use

Sometimes, it's the little alterations that can make your life a lot easier. The following enhancements were made to SitePro, making it even more user-friendly.

Available Now

- The Flow Ramp is now in ten steps with up to 30 minutes each.
- Run times are rounded to nearest second.
- More alarm responses were added.
- There are up to 1,000 site codes per type (that's a total of 7,000!).
- A reset button was added to the Percent Adjust screen.
- Expanded reporting capability.

Available: Autumn 2003

- Time updates sent hourly to OSMAC from the central.
- Improved database management.

Expanded Multi-manual Capability

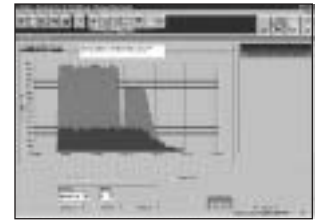
Available: Autumn 2003



Station Group and Master Group Multi-manual capabilities have been added to all platforms. Both can be operated manually from the central and be programmed to run automatically.

Pump Station Integration with Re-flow

Optional Module Available: Autumn 2003



With SitePro, the advantage is yours. Like no other central system, SitePro now has the ability to recalculate irrigation based on a reduction in pump station capacity. In addition, you have the ability to integrate multiple pump stations and enable or disable integration and/or responses.

Note: Toro has partnered with Flowtronex and Watertronics for pump station capability, thereby optimizing the SitePro system.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

You're Informed and In Control with T.Map™.



Whether you want to create programs, run manual operations, review watering or create work orders, SitePro lets you do it all in a graphic format with the integrated** functionality of T.Map. But we don't just give you system status. T.Map allows you to create watering programs, assign and unassign stations to programs; and adjust run times. And, every change you make at the map is linked directly to SitePro. No need to replicate your work if you prefer to work directly from the map. Simply select the irrigation function you want, click on the sprinklers or series of sprinklers and make the adjustment. It really is that easy.

**T.Map is GPS-compatible and requires the assistance of a service provider.

Review system flow from the map.

See how your programs will run throughout the night from this uniquely designed screen. Using start, pause, fast-forward and rewind buttons, you can view a graphic simulation of how your sprinklers are running. You'll know at a glance if you need to make adjustments to optimize your hydraulic performance.

Locate trouble spots easily.

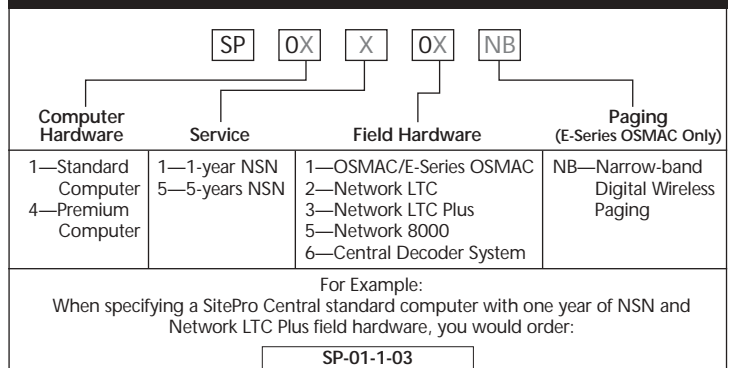
Automatic polling of satellite and station information permits accurate, precise feedback from field devices. System Watch provides at-a-glance data to better manage your course and improve turf conditions. Once you've found your trouble, fix it immediately or dispatch someone to take a closer look.



Features

- Multiple communication modes:
 - Wireless digital paging
 - Two-way wireline
 - Two-way wireless
 - Hybrid (combination of wireless and wireline) for Network LTC Plus and Network 8000 only
 - Two-way telephone
- Electro-Flow simultaneously manages hydraulic and electrical current demands in your system for total system efficiency
- Unlimited wire paths
- On-line, context-sensitive Help screens
- Irrigation supports three methods:
 - Basic: daily run times assigned to programs
 - Intermediate: run times modified automatically with changes in daily ET, identified by ET source
 - Advanced: run times calculated automatically based on sprinkler performance, site parameters and measured ET
- Automated adjustment factors allow scheduling refinement from 0-999% by station, satellite, program, group and for all satellites
- Microsoft Windows XP, 32-bit software
- User-definable names vs. system defaults
- Unlimited master program sequences
- Toro Repeat & Soak™ assigned by program or station:
 - Up to three repeats per program
 - 12 starts per program
- Advanced multi-manual operations for overseeding, hot spots or fertilizer wash-in
- Extensive reporting capabilities
- Multi-lingual display (English, Spanish, French, German, Italian, Japanese and Chinese)
- T.Map software provides:
 - GPS compatibility for map accuracy
 - Dynamic, interactive operation
- Optional T.Weather with WeatherLogic software module allows:
 - User-defined alarm thresholds
 - Interactive, automatic response to the central
- Optional hand-held radio capability
- Available Alarm/Response capabilities:
 - Reads sensors from the field
 - Logs status of sensors
 - Based on multiple "if/then" logic to generate alarms

Ordering Information



Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

SitePro is a registered trademark of The Toro Company. Electro-Flow, T.Map and Repeat & Soak are trademarks of The Toro Company.

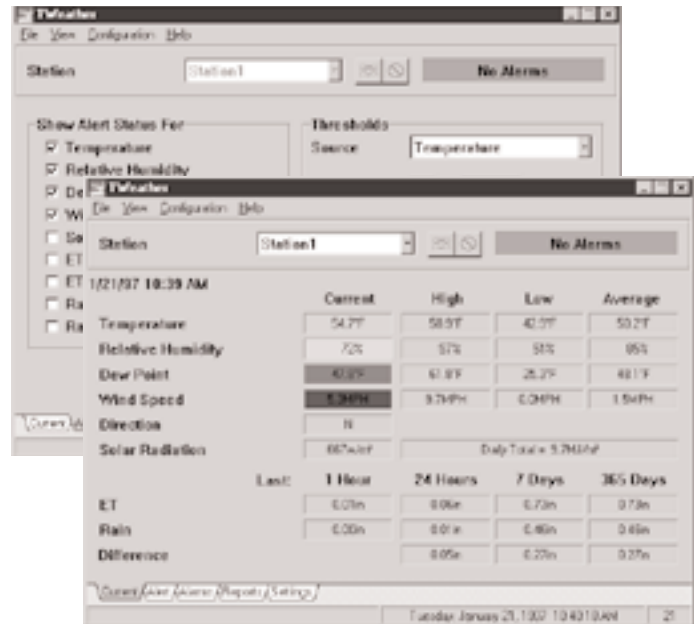
Toro T.Weather with WeatherLogic Software

Features

- Establishes an interactive link between the weather station and the SitePro™ central control system
- Provides advanced and highly effective weather-data management and control for your irrigation system
- Defines specific conditions for alarms using multiple inputs, then notifies SitePro when an alarm is activated using the “if/then” statements of the WeatherLogic feature
- Pauses all irrigation cycles according to the user-defined alarm thresholds, without losing the program
- Transmits the changes in alarm conditions to SitePro so it can resume irrigation again
- Weather tracking allows viewing of current data retrieved from the weather stations, or creating reports based on the past hour, day, week or year

Specifications

- Add-on, optional software module for SitePro central control system
- User-defined alarms based on data collected from the weather stations, applying simple or advanced “if/then” logic statements
- Provides modular software control of on-site or off-site weather stations:
 - Phone-connected weather stations
 - Wireline-connected weather stations
- User-defined polling interval for gathering current weather station data and comparison with alert settings
- Color-coded alerts indicate when environmental conditions are not within the normal range
- Interactive, automatic response to the SitePro central control system
- Weather station data (temperature, relative humidity, dew point, wind speed and direction) displays in real time or 24-hour periods:
 - 24-hour periods show high, low and average data



- Solar radiation displays daily total
- Data totals for ET, rain and the difference between them shown for the last hour, 24 hours, 7 days and 365 days
- Stores weather station data for up to one year
- Extensive reporting capabilities based on weather station data from the past hour, day, week or year
- Supports 10 weather stations
- On-line, context sensitive Help screens
- Multi-lingual display (English, Spanish, French, German, Italian, Swedish, Japanese and Chinese)
- Units of measure in English or Metric
- System displays time in 12-hour (a.m./p.m.) or 24-hour format

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information	
Model Number	Description
997-04	T.Weather with WeatherLogic Software

SitePro is a registered trademark of The Toro Company. T.Weather and WeatherLogic are trademarks of The Toro Company.

The Toro Gemini/Trident

Toro Gemini and Trident are computerized central control systems that use decoder field hardware. Both convert and upgrade existing systems to PC-based operation, giving you far more flexibility with enhanced irrigation system monitoring and control.

We took all of the complexity and sophistication of the irrigation process and made it as simple as asking:

1. What?
2. When?
3. How Much?

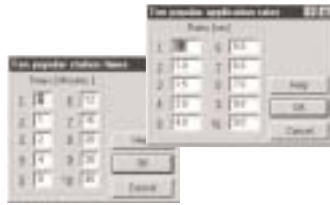


What do I want to water?

Program the way you think. These Windows®-based programs use a mouse for simple point-and-click programming and day-to-day operation. There are no spreadsheets to decipher and very little typing required. Gemini and Trident work the way you do, allowing you to identify stations/ zones by location (i.e., "tee," "fairway," "green," etc.), not with arbitrary labels.

Cut-and-paste operations and built-in, pre-set station/zone times speed up programming. Rapid Programming allows you to set watering times by station/zone type (i.e., "all greens" or "greens and tees") instead of programming individual stations/zones — saving you valuable time. Gemini and Trident store up to 60 irrigation programs in memory, allowing quick, accurate changes. With one-off programming you can write special programs without affecting your normal

schedules. Built-in, on-screen decoder programming lets you make changes right at your computer.



Day-to-day scheduling is easy. And you decide how to set your schedule — by application amount or by time, it's your choice.



When is irrigation scheduled to run?

A single screen gives you an at-a-glance view of your irrigation schedule for a two-week period. Click anywhere within your schedule and make adjustments right on the screen. Station/zone run-time adjustments of 10-600% allow quick run-time modification to accommodate your water budget.



How much water am I using?

An on-screen flow gauge provides continuous system monitoring against pump capacity. Water and electrical current optimization reduces overall run times.

Full manual override allows manual operation of stations/zones and programs while using full flow and electrical capabilities, preventing system over-load and poor hydraulic performance. To begin watering, simply select the number of the hole and station/zone type.



Reporting keeps you informed. Gemini and Trident record water use for a full ten years, logging all operations, including water use and faults. Accurate water monitoring assists you in developing a complete water audit against your budget.



System diagnostics and on-line Help put you in charge.

The Auto-Diagnostic Cycle conducts a full station/zone test at program start for rapid trouble-shooting — saving time and money. Controller diagnostics test all central control system components and produce a thorough report of the findings. Testing individual and groups of stations/zones can be done directly from the computer.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.



Only Toro offers on-line Help screens. Hot keys move you quickly through Help, making suggestions so you can be sure you're optimizing your system.

Using a standard mapping program to produce high-quality graphics as good as those found in systems that cost thousands more, Gemini and Trident are capable of displaying a map of your course (not the standard graphics used in other irrigation control systems). The resulting graphics let you review and revise on-screen schedules and programs — quickly and easily. Color-coded indicators give you system status at a glance:

- blue indicates running stations/zones
- black signals no activity
- yellow notes stations/zones irrigating next
- red warns of an error

Unlike some software that only reports status graphically at the program level, Gemini and Trident give you critical, at-a-glance, graphical system status at the station/zone level. All running irrigation programs can be displayed, so you can monitor the progress of irrigation across your entire course. There's no need to go back to the database to see how long a particular station/zone will run, it's shown right on the map. Best of all, you can program your system directly from the map (automatic and manual). Simply select the irrigation function you desire, click on the sprinkler or series of sprinklers, and make the adjustment.

Features

- Gemini operates two-wire systems and Trident operates three-wire systems
- Gemini can be installed to replace Watermation TW2, and works with MK1 and MK2 decoders, and Trident can be installed with SC 3000 decoders, allowing gradual replacement of existing decoders for phased replacement with reduced initial capital investment and better cost management over time
- 1-, 2-, 3- and 4-station/zone output available for lower initial cost per station/zone
- Up to 60 programs
- 12 starts per day
- Up to 12 cable paths (95 stations/zones per path)
- Up to 64 stations/zones per hole
- Built-in pump start
- 2 sensors per field interface
- Decoders are programmed at the controller – separate programming unit not necessary – reducing costs and speeding programming
- Two-way communication between the controller and Toro decoders allows rapid and accurate system testing and troubleshooting, and reduced maintenance time and costs
- Surge and lightning protection reduces component damage, spare holding, reprogramming and replacement costs
- Multiple languages
- On-line help
- Contact your local Toro representative for current computer specifications
- Radio remote for manual watering

Specifying Information

XXX XXX XXX XX			
Model Number	Type	Voltage	Zones
GEM—2 Wire	CEN—Complete	120—120 V a.c.	02—2 Zones
TRI—3 Wire	Central	50/60 Hz	03—3 Zones
	EXP—Expansion	230—230 V a.c.	04—4 Zones
	Unit	50/60 Hz	
		240—240 V a.c.	
		50/60 Hz	

For Example:
When specifying a 2-Wire, complete, 220-230 volt central with 4 zones, you would specify:

GEM-CEN-230-04

Specifying Information

Model Number	Description
GEM—DEC—01	Gemini 2-Wire Decoder, 1 Station
GEM—DEC—02	Gemini 2-Wire Decoder, 2 Station
GEM—DEC—03	Gemini 2-Wire Decoder, 3 Station
GEM—DEC—04	Gemini 2-Wire Decoder, 4 Station
TRI—DEC—01	Trident 3-Wire Decoder, 1 Station
TRI—DEC—02	Trident 3-Wire Decoder, 2 Station
TRI—DEC—03	Trident 3-Wire Decoder, 3 Station
TRI—DEC—04	Trident 3-Wire Decoder, 4 Station

Specifying Information

Model Number	Description
GTI—DTMFREC—EXT—01	Gemini/Trident DTMF remote control interface
GTI—DOUBOOST—01	Communication Booster

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Toro TouchNet Central Control System

TouchNet for OSMAC® and Network LTC® Plus

Features

- Toro's AcuTouch™ interface is as easy to use as an ATM; fast, straightforward programming eliminates potential errors
- No computer skills are required to operate
- Exclusive Touch & Copy™ quick-programming feature simplifies startup
- Default run times and station flows for quick programming
- Simplified program management with sequence starts
- Programs and start sequences are user-definable and prioritized in any order
- Custom programming with seven-day calendar, one- to 30-day interval or odd/even interval days allows irrigation scheduling to reduce water waste and improve turf quality

- User-specifiable day-change time
- Adjustment factors simplify program refinement
 - 10–250%
 - System adjust for all stations
 - Program adjust for select stations
- HydroGuard™ hydraulic management system optimizes flow to avoid surges, water hammer and pressure loss
 - Up to 20 flow zones
 - Protects hydraulic and electrical systems
- Hand-held radio capability for in-field control and flexibility
- Durable, sealed touch screen keeps dirt out for fewer service calls and lower maintenance costs
- Alarms and reports speed up troubleshooting to fix field problems
- Uses common hardware to cost-effectively upgrade to a more advanced system

TouchNet for OSMAC

Features

- Manages up to 35 OSMAC satellites
 - Up to 48 stations per satellite
 - Up to 1,680 total stations
- Up to 12 irrigation programs
- Uses fail-safe paging technology for absolute security of transmitted data
- Paging terminal has alarm inputs, allowing automated response to external events
- Paging terminal also serves as a voice/radio base station
- Manual control of OSMAC satellites from TouchNet central or directly from paging terminal

Electrical Specifications

- Input power, TouchNet
 - 12 VDC, 800 mA (plug-in transformer)
- Input power, OSMAC paging terminal
 - 8 VDC, 3.5 A (external power supply)
- UL listed
- English only, not CE marked



Mechanical Specifications

- Dimensions
 - Wall Mount: 343 x 254 x 120mm H x W x D (13½" x 10" x 4¾", H x W x D)
 - Desk Mount, Flat: 120 x 254 x 343mm H x W x D (4¾" x 10" x 13½", H x W x D)
 - Desk Mount, Upright: 197 x 254 x 343mm H x W x D (7¾" x 10" x 13½", H x W x D)

Ordering Information— TouchNet for OSMAC

Model No.	Description
TNO-90-06 NB-BS-TNO	TouchNet for OSMAC Central Narrow-band Base Station
For Example: When specifying a TouchNet for OSMAC Central with a Narrow-band Base Station and one-year NSN Full-service Plan, you would order: TNO-90-06 and NB-BS-TNO and NSN-TN-01	

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

*Note: FCC license required.
* One-year NSN Plan included. Additional plans are available.
TouchNet, Network LTC and OSMAC are registered trademarks of The Toro Company.
AcuTouch, Touch & Copy and HydroGuard are trademarks of The Toro Company.*

TouchNet for Network LTC Plus

Features

- Manages up to 35 Network LTC Plus satellites
 - 16–64 stations per satellite in eight-station increments
 - Up to 2,240 total stations
- Up to eight irrigation programs
- Up to 12 start sequences
- Provides true two-way communication for monitoring and feedback of satellite conditions
- Extensive alarm capabilities
 - Protects against user errors
 - Alerts user to system communication errors
- Optional Network Hand-held radio capability

Electrical Specifications

- Input power, TouchNet for Network LTC Plus Central
 - 12 VDC, 1.5 A (universal transformer)
- UL listed
- CE marked

Mechanical Specifications

- Dimensions
 - Wall Mount: 343 x 254 x 120mm H x W x D (13½" x 10" x 4¾", H x W x D)
 - Desk Mount, Flat: 120 x 254 x 343mm H x W x D (4¾" x 10" x 13½", H x W x D)
 - Desk Mount, Upright: 197 x 254 x 343mm H x W x D (7¾" x 10" x 13½", H x W x D)



	OSMAC	Network LTC Plus
Communication Mode	One-way, Wireless Digital Paging	2-way Wireline 2-way Wireless Hybrid* 2-way Telephone
Number of Satellites Per TouchNet Central	35	35
Number of Stations Per Per Satellite	8 to 48 in 8-station Increments	16 to 64 in 8-station Increments
Number of Irrigation Programs	12	8
Number of Start Times Per Program	12	12
Optional Lighting Protection Surge Packages	No	Yes
Current Detection	No	Yes
Hand-held Radio Capability	Yes	Yes

* Combination of wireline and wireless.

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information—TouchNet for Network LTC Plus

Model No.	Description
TNL-1-1	TouchNet for Network LTC Plus, 115 V a.c. English
TNL-2-1	TouchNet for Network LTC Plus, 230 V a.c., English
TNL-2-2	TouchNet for Network LTC Plus, 230 V a.c., Spanish
TNL-2-3	TouchNet for Network LTC Plus, 230 V a.c., French
TNL-2-4	TouchNet for Network LTC Plus, 230 V a.c., Italian
TNL-2-5	TouchNet for Network LTC Plus, 230 V a.c., German
For Example: When specifying a TouchNet Central for Network LTC Plus, 115 V ac 50/60 Hz power, and one-year NSN Full-service Plan, you would order: TNL-1-1 and NSN-TN-01	

TouchNet, Network LTC and OSMAC are registered trademarks of The Toro Company. AcuTouch, Touch & Copy and HydroGuard are trademarks of The Toro Company.

Toro NSN National Support Network



To continue your coverage, we offer extended support and warranty services. Only Toro offers such irrigation system assurance and peace of mind.

NSN On-Call

- 24-hour, 7-days-a-week, toll-free support services for two years.

Annual Plan

- Our Annual Plan lets you continue the NSN relationship in yearly increments, keeping your central control system covered by the expertise and warranty services available only from Toro NSN. Includes toll-free, 24-hour- 7-days-a-week support, rapid computer replacement, and controller software update discounts.

Essentials Plan

- All of the support and warranty services provided in our Annual Plan extended for three years in our Europe-Africa-Middle East markets, Canada market (Fundamental Plan), and five years in our Australia-Asia-Pacific and Mexico-Latin America markets.



Classic Plan

- A five-year Plan with all of the features of our Essentials Plan, plus a standard computer with color printer. Australia-Asia-Pacific and Canada-Mexico-Latin America markets include one admission to a two-day NSN training class.

Ultimate Plan

- A five-year warranty, all of the unlimited toll-free support of our five-year Classic Plan, but with a premium computer with color printer, an Uninterruptible Power Supply (UPS), and Microsoft® Office. Australia-Asia Pacific and Canada-Mexico-Latin America markets include one admission to a two-day NSN training class.

Optimum Plan

- Be confident you will have the latest technology! Our Optimum Plan provides you with the comprehensive coverage of the Ultimate Plan**, with this important difference: After your option of 24 or 36-months plan period, renew your NSN contract and receive the latest, state-of-the-art premium computer and color printer NSN has to offer.

**Optimum Plan does not include Microsoft® Office.

24-month option not available in all markets.

Pick the service option that gives you what you need for reliable, cost-effective support. Just ask your distributor or your NSN Representative for details and pricing.

Contact Us

Canada, Mexico, Latin America

Customer Support

(800) ASK-TORO (275-8676)
(800) 527-4248
(325) 673-8762
7 a.m.-7 p.m., CST
Mon.-Fri. with 24-hour paging

Sales/Training/Marketing

(888) 676-8676
(325) 673-8762

8 am-5 pm, CST Monday-Friday

Administration

(325*) 673-8762
*915 area code until 4/2003

Fax

(325*) 673-8765
* 915 area code until 4/2003

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P. O. Box 3339
Abilene, TX 79604 USA

Shipping Address

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Abilene, TX 79602 USA

Website

www.toronsn.com

Contact Us

Europe, Africa, Middle East

This location can accommodate the following languages: English, French, German, Italian, Swedish, Dutch, and Spanish.

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Australia

Website

www.toronsn.com



Toro E-Series Field Satellite

Features

- Electro-Flow™ simultaneously manages hydraulic and electrical demands in your system for total system efficiency
- A larger station count, offering 48 stations when used with TouchNet central and up to 64 stations when used with SitePro central software
- Synthesized decoder modules that can be reprogrammed in the field—new frequency modules can store up to four pre-programmed frequencies to transition from construction to permanent frequencies (narrow band)
- Stainless steel (painted) and bi-wall plastic cabinet configurations
- Five terminal-strip options available, depending on application and customer needs
- Run up to 12 solenoids simultaneously (with pump) for a total secondary output of 3.0 amperes (holding) at 24 V ac (800S Series sprinklers allow more simultaneous station operation)
- Selectable 120- or 240-volt input voltage as a standard feature
- Colored LED indicators to confirm 24, 9- and 5-volt power to various boards within the cabinet makes troubleshooting a snap
- LEDs for each station output
- Simple self-testing by sliding a switch, or more in-depth field diagnostics are available (with a 9-pin adapter and laptop-link)—more than eight separate functions can be verified
- Terminal block positions allow for same-length wire use and faster installation
- Internal antenna allows for a smaller profile cabinet
- Enhanced surge protection lowers operating costs
- Uses automotive fuses that are readily available for serviceability
- Patented Hot Post for each eight-station module
- Optional Smart OSMAC chip provides the following capabilities:
 - Runs in stand-alone mode:
 - Can be used as a backup in case of central failure or can run the system prior to central installation
 - Runs off the hand-held radio
 - Sequential multi-station function available

- New command codes added to the firmware
- Multiple start times per program
- Multiple stations per program
- Up to 10 programs can run simultaneously with one station per program
- Provides ability to download program from a PDA or laptop
- Utilizes Flex Memory for maximum programming flexibility
- Desktop and PDA software included
- Create or edit programs by using a PC or PDA
- Default programs factory-installed, allowing immediate operation
- Factory default settings:
 - Eight programs
 - Eight stations per program
- Upgrade includes:
 - Smart OSMAC software
 - Serial cable
 - Compaq iPAQ
- Smart OSMAC EPROMs available separately
- Output power:
 - 24 V ac
 - 0.25 amps per station
 - 3.0 amps maximum station load
 - 3.2 amps maximum station load plus pump
- Station draw:
 - 12 solenoids per satellite may operate simultaneously with pump
 - 16 solenoids per satellite may operate simultaneously without pump
- UL approved

Mechanical Specifications

- Dimensions:
 - Plastic cabinet: 41 x 99 x 41cm, W x H x D (16" x 39" x 16")
 - Stainless steel (painted) cabinet: 33 x 91 x 33cm, W x H x D (13" x 36" x 13")
- Shipping weight:
 - Plastic cabinet: 32 stations, 31 kgs (68 lbs.)
 - Stainless steel (painted) cabinet: 32 stations, 36 kgs (80 lbs.)



Toro Dome Antenna

Features

- New lower cost way to go with wireless Network LTC Plus!
- Saves money and installation time
- Offers reliable two-way wireless with a faceplate
- Service kit that replaces current vent cover on plastic cabinet with new dome antenna cover, metal ground plane and 3 dB gain antenna



- Eliminates pole-mounted antenna when used with plastic cabinets
- Same color and texture as current plastic cabinet - aesthetically pleasing
- Retrofits to all plastic cabinets for E-Series OSMAC, Network 8000 Network LTC Plus and Network DR2 field satellites

Ordering Information—Dome Antenna

Model Number	Description
102-3126	Dome Antenna Kit for E-Series OSMAC Plastic Cabinet
102-2419	Dome Antenna Kit for LTC Plus, Network 8000 and Network DR2 Series Plastic Cabinet

Ordering Information—E-Series Satellites

Description	Configuration	Cabinet	Output	Communication	Options
E—E-Series Satellite	16—16 Stations 24—24 Stations 32—32 Stations 40—40 Stations 48—48 Stations 56—56 Stations 64—64 Stations	P—Plastic S—Stainless Steel (Painted)	6A—Electric	N—Narrow Band P—Wide Band	0—No Options 1—Large-capacity Terminal Block w/Standard Surge 2—Large-capacity Terminal Block w/Additional Surge 3—Large-capacity Terminal Block & Switches 4—Large-capacity Terminal Block w/Additional Surge & Switches
For Example: When specifying a 32-station, E-Series Satellite with OSMAC Wide-band digital wireless paging, a stainless steel cabinet, electric output, additional surge protection and a large-capacity terminal block, you would order: E-32S6APM2					

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

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

Toro OSMAC RDR Field Satellite

OSMAC RDR satellites are completely modular, allowing planned expansion from eight to 48 stations. They're the ideal choice for upgrading existing systems—adding communication wires or altering hardware is unnecessary.

A multi-function hand-held radio provides remote control for easy satellite operation. When used in conjunction with the SitePro OSMAC central software and a Toro-specified weather station, system management becomes virtually automatic.

OSMAC satellites increase productivity and give you greater versatility in turf management. With its time-saving features, it provides all essential large turf irrigation functions.

Features

- Modular solid-state design, expandable up to 48 stations in eight-station increments
- Hand-held radio puts satellite control in the palm of your hand
- Multi-function radio allows control and voice transmissions from the same unit
- Runs up to 10 stations simultaneously (from the central or by remote control)
- Programmable syringe time from 30 seconds to 128 minutes in 30-second intervals
- Optional relay card available
- Enhanced surge protection available for electric RDRs
- Hydraulic or electric models available
- Prewired satellite pedestal models available without the RDR control unit for upgrading existing OSMAC systems
- UL and CE approved

Electrical Specifications

- Input power:
 - 120/240 V ac, 60 Hz
 - 0.07 amps @ 115 V ac, 60 Hz (no load)
 - 0.76 amps @ 115 V ac, 60 Hz (maximum load)
 - 0.09 amps @ 230 V ac, 50 Hz (no load)
 - 0.41 amps @ 230 V ac, 50 Hz (maximum load)
- Station output power:
 - 24 V ac
 - 0.60 amps (14 VA) per station
 - 3.0 amps (72 VA) total
- Station draw:
 - 3 solenoids per station
 - 12 solenoids may operate simultaneously



Mechanical Specifications

- Large Pedestal:
330 x 1156 x 330mm, W x H x D
(13" x 45½" x 13", W x H x D)

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information—Pedestal-Mount Satellite, Electric

<div style="display: flex; justify-content: center; gap: 10px;"> RDR XX P 6A X M4 </div>				
Configuration	Cabinet	Output	Communication	Surge Protection
16—16 Stations 24—24 Stations 32—32 Stations 40—40 Stations 48—48 Stations	P—(13 x 13), Plastic	6A—24 V ac Electric	P—Wide Band N—Narrow Band	M4—Full Surge
For Example: When ordering a 40-station OSMAC RDR Electric satellite in a plastic cabinet with narrow-band communication and full surge, you would order: RDR40P6ANN4				

Note: FCC license required.

Ordering Information—Pedestal-Mount Satellite, Hydraulic

<div style="display: flex; justify-content: center; gap: 10px;"> RDR XX P O1 X O </div>				
Configuration	Cabinet	Output	Communication	Surge Protection
16—16 Stations 24—24 Stations 32—32 Stations 40—40 Stations 48—48 Stations	P—(13 x 13), Plastic	O1—Normally Open Hydraulic	P—Wide Band N—Narrow Band	O—No Surge
For Example: When ordering a 32-station OSMAC RDR Hydraulic satellite in a plastic cabinet, normally open hydraulic output with narrow-band communication, you would order: RDR32P01NO				

Note: FCC license required.

OSMAC and Network LTC are registered trademarks of The Toro Company

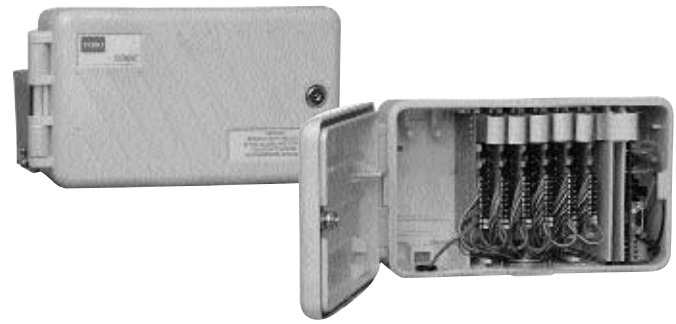
Toro OSMAC RDR Low Voltage Retrofit Kit

Features

- Modular solid-state design, expandable from 16 to 48 stations in 8-station increments (maximum station count based on size of existing 24 V ac power supply)
- Standard with 16 stations
- No additional trenching or underground wiring
- Easily installed on Toro and other systems
- UL and CE approved

Specifications

- Maximum number of satellites: 255
- Input power:
 - 20-26 V ac, 50/60 Hz
- Station output power based on existing power supply



Ordering Information OSMAC RDR Retrofit Kit for VT Satellites

<i>Model Number</i>	<i>Description</i>
RDR0160LVN0	OSMAC RDR Retrofit Kit-UL
RDR0160LVCE	OSMAC RDR Retrofit Kit-CE
NLN3491A	8-Station Expansion Card

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Toro Network LTC Plus Field Satellite

Features

- Exceptional value with your choice of modules:
 - 16 to 64 stations in eight-station increments
 - Standard or large-capacity terminal block (accepts two 14-gauge wires)
 - Standard or additional surge protection
 - Stations
 - Signal, pump and common
 - Input power
 - Manual On/Off station switches (optional)
 - Sturdy plastic or painted stainless steel cabinetry
- Easy field installation and service:
 - All components easily accessible and in full view for fast troubleshooting
 - Straightforward terminal block connections
 - Snap-in output modules
 - Guidepost aligns output module for easy installation
 - Junction box eliminates need to bend high-gauge power wire
- Operates as a stand-alone controller (great for new construction) or under the management of a central controller
- Dual-voltage power supply, 115 and 230 V ac
- 24 V ac actuation
- Primary power isolation switch

- 16 independent programs, with up to eight running simultaneously
 - 14-day CALENDAR or 1- to 29-day INTERVAL scheduling by program
 - 0 to 3 repeats per program
 - 0- to 59-minute soak time between repeats
 - Up to 12 starts per program, per day
 - Exclusive Toro FlowSafe™ protects flow-managed programs in the event of a central or wireline interruption
- Station run times from 1 minute to 8 hours and 59 minutes
- Global or independent program adjust at the satellite
- Percent adjust by program (10 to 250%)
- Syringe %, allows 10 to 99% operating adjustment
- Up to 2 non-irrigation (switch) programs available with central software
- Non-volatile memory saves program data for up to 10 years without power
- Pump & Common control module with standard surge protection
- Manual operation by program (normal or syringe), independent station or multiple stations (up to 6)
- Patented Toro Hot Post for easy valve activation and identification
- UL certified, CE marked

Electrical Specifications

- Input power:
 - 115/230 V ac, 50/60 Hz
 - 0.183 amps @ 115 V ac, 60 Hz (no load)
- .872 amps @ 115 V ac, 60 Hz (maximum load)
- 0.181 amps @ 230 V ac, 50 Hz (no load)
- 0.50 amps @ 230 V ac, 50 Hz (maximum load)

- Station output power:
 - 24 V ac
 - 0.75 amps (18 VA) per station
 - 3.15 amps (76 VA) total
- Station draw:
 - up to 3 solenoids per station
 - 12 solenoids may operate simultaneously

Mechanical Specifications

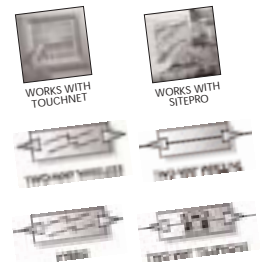
- Dimensions:
 - Stainless steel Pedestal
330 x 908 x 330mm W x H x D
(13" x 35½" x 13", W x H x D)
 - Plastic Pedestal
405 x 990 x 381mm W x H x D
(16" x 39" x 15", W x H x D)



Toro Dome Antenna

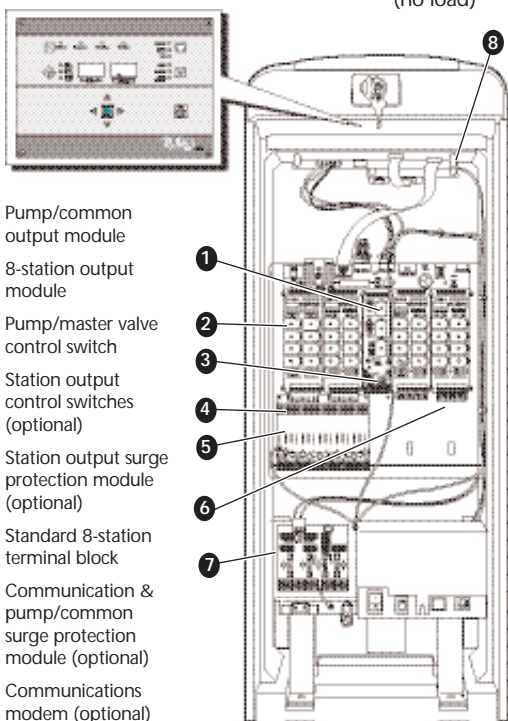
Features

- New lower cost way to go with wireless Network LTC Plus!
- Offers reliable two-way wireless with a faceplate
- Eliminates pole-mounted antenna when used with plastic cabinets
- Service kit that replaces current vent cover on plastic cabinet with new dome antenna cover, metal ground plane and 3 dB gain antenna



- Saves money and installation time
- Same color and texture as current plastic cabinet— aesthetically pleasing
- Retrofits to all plastic cabinets for E-Series OSMAC, OSMAC RDR, DR2, Network 8000 and Network LTC Plus field satellites

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.



- 1 Pump/common output module
- 2 8-station output module
- 3 Pump/master valve control switch
- 4 Station output control switches (optional)
- 5 Station output surge protection module (optional)
- 6 Standard 8-station terminal block
- 7 Communication & pump/common surge protection module (optional)
- 8 Communications modem (optional)

Ordering Information—Dome Antenna

Model Number	Description
102-2419	Dome Antenna Kit for LTC Plus, Network 8000 and Network DR2 Series Plastic Cabinet

Ordering Information—Network LTC Plus Satellite

Configuration	Station Count	Cabinet	Input	Communication	Optional
LTCP—16-station Base Satellite	16—16 Stations 24—24 Stations 32—32 Stations 40—40 Stations 48—48 Stations 56—56 Stations 64—64 Stations	P—Plastic S—Stainless Steel (Painted)	5—100/200 V ac 6—115/230 V ac Electric	A—Stand-alone M—2-way Wire Modem	0—No Options 1—Large-capacity Terminal Block 2—Terminal Block and Additional Surge 3—Terminal Block and Switches 4—Terminal Block, Switches and Additional Surge
For Example: When specifying a 64-station Network LTC Plus Satellite with a plastic cabinet, electric output with a 2-way wire modem and optional large-capacity terminal block, you would order: LTCP64P6M1					

Note: 100/200 V a.c. only available as LTCP16P5M0 or LTCP40P5M0. FIUS must be ordered separately. Network LTC is a registered trademark of The Toro Company.

Toro Network LTC with Electric-hydraulic Converters

Features

- Operates as stand-alone controller (great for new construction) or under full management of a central controller
- Advanced modular design, 12 to 24 stations in four-station increments
- User-friendly interface for simple operation
- Maximum lightning protection with EHCs
- Global or independent program adjust
- Eight independent programs available—up to four may run simultaneously
 - 14-day CALENDAR or 1- to 30-day INTERVAL scheduling by program
 - 0 to 3 repeats per program
 - 0- to 59-minute soak time per program
 - Up to 12 starts per program
- Station run times from one minute to eight hours and 59 minutes
- 24 V ac actuation
- Selective pause/cancel/resume control
- Water manually with On/Off switches
- Percent adjust by program (10 to 250%)
- Syringe %, allows 10 to 100% operating adjustment
- Up to two non-irrigation (switch) programs available with SitePro® central software
- Non-volatile memory saves program data for up to 10 years without power
- Manual operation by program (normal or syringe), independent station or multiple stations (up to six)
- UL listed, CSA certified, TUV licensed

Electrical Specifications

- Input power:
 - 115/230 V ac, 50/60 Hz
 - 0.15 amps @ 115 V a.c., 60 Hz (no load)
 - 1.09 amps @ 115 V a.c., 60 Hz (maximum load)
 - 0.15 amps @ 230 V a.c., 50 Hz (no load)
 - 0.59 amps @ 230 V a.c., 50 Hz (maximum load)
- Station output power:
 - 24 V a.c
 - 0.75 amps (18 VA) per station
 - 3.0 amps (72 VA) total
- Station draw:
 - 1 solenoid per station
 - 12 solenoids may operate simultaneously

Mechanical Specifications

- Dimensions: 330 x 908 x 330mm, W x H x D (13" x 35½" x 13", W x H x D)



Ordering Information—Network LTC Satellite w/EHC

Model	Configuration	Cabinet	Output	Surge Protection	Communication
LTC	12—12 Stations 24—24 Stations	P—Plastic S—Stainless Steel (Painted)	1—Normally Open Hydraulic 8—Normally Closed Hydraulic	0—Standard	3—Stand-alone 4—LTC Modem 5—VT Modem
<i>Expansion Module*</i>					
MOD-S4—4-station Surge-protected Module Providing 24 V ac Electric Output					
<i>EHC Base Expansion Kits**</i>					
MOD4-WT-01—4-station Normally Open Hydraulic Expansion Module w/Terminal Strip					
MOD4-WT-08—4-station Normally Closed Hydraulic Expansion Module w/Terminal Strip					
<i>EHC Add-On Expansion Kits***</i>					
MOD1-LT-01—1-station Normally Open Hydraulic Expansion Module w/o Terminal Strip					
MOD1-LT-08—1-station Normally Closed Hydraulic Expansion Module w/o Terminal Strip					
MOD4-LT-01—5- to 8-station Normally Open Hydraulic Expansion Module w/o Terminal Strip					
MOD4-LT-08—5- to 8-station Normally Closed Hydraulic Expansion Module w/o Terminal Strip					
For Example:					
When specifying a 20-station Network LTC Satellite with a plastic cabinet, normally open hydraulic output, standard surge protection and LTC modem, you would order:					
LTC12P1-04, MOD-S4 (qty. 2), MOD4-LT-01 and MOD4-WT-01					

* 24 stations maximum.

** Each Network LTC satellite is pre-wired to accommodate 16 EHC stations.

*** To use the add-on expansion kit, you must have a base expansion kit with terminal strip installed.

Toro Network CDS Decoder

Features

- Up to two Toro valve or valve-in-head solenoids per station
- Available in one, two, three or four stations
- Electronic programming of station addresses (allows for quick and easy maintenance)
- Vandal resistant

Specifications

- Stand-by power consumption: 0.6 mA typical
- Input voltage range: 19–48 V ac
- Output voltage regulation: 18.5V to 27 V ac ± 10%
- Maximum total output load: 1.5 amp RMS
- Signal input voltage range: 19–48V (peak to peak)
- Connections—pigtail wires: 20 AWG, 61cm (24") leads
- Housing: ABS (black)
- Body size: 127 x 51 x 25mm (5" x 2" x 1")

Toro Network CDS Decoder Interface Unit

Features

- Available in two- or four-channel configurations
- Each channel supports up to 112 stations
- 10 solenoids per channel may operate simultaneously
- Two-way communication via reliable three-wire protocol
- Short circuit, low-voltage and open circuit detection capability
- Self-test feature
- Built-in surge protection eliminates the need for additional expensive line devices
- Vandal resistant

Specifications

- Input voltage: 110, 220 or 240 V ac
- Output voltage: 30 or 40 V ac—selectable for each channel
- Inputs for Rain Switch® and pressure sensor



Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information—Station Decoders

Model Number	Description
CDS-DEC-01	1-station Decoder
CDS-DEC-02	2-station Decoder
CDS-DEC-03	3-station Decoder
CDS-DEC-03	4-station Decoder

Ordering Information—Decoder Interface Units

Description	Type	Voltage
DIU—Decoder Interface Unit	2—2 Channels 4—4 Channels	110—110V 230—230V 240—240V

For Example:
When specifying a 2-channel Decoder Interface Unit with 110V, you would order:

DIU-02-110

Ordering Information—Encoder Programmer

Model Number	Description
CDS-ENC-02	Encoder (Decoder Programming Unit)

SitePro is a registered trademark of The Toro Company.

Toro PRISM Pocket-PC Remote Irrigation System Manager

Features

- Manually start stations, change station percent adjustments or put selected sprinklers on hold
- Review and adjust system data
- Download all changes to update your SitePro® system
- View greens, tees, fairways, traps, etc.
- Select holes and sprinklers
- Modify sprinkler and satellite symbols
- With the QuickView™ feature, use Prism without a map—it converts SitePro data into a grid view with a station summary display much like T.Map™
- Send radio commands (with repeat functions)
- Save and recall up to 20 user-defined commands
- Alter all data at once or enter individual changes
- Modify all hold times by utilizing a pop-up calendar
- One-year NSN® support
 - Toll-free telephone support
- Voice recorder, mobile address book and calendar capability
- User interface available in five languages: English, Spanish, French, Italian or Swedish
- Both Standard English and Metric measurement units available
- Works exclusively with Toro SitePro® with OSMAC®, CDS, Network LTC™, Network LTC™ Plus, Network DR2™, Network 8000® and a Network Hand-held Radio system



- Close
- Radio Commands
- Percent Adjust/Hold
- Utilities
- SitePro Data
- Multiple Sprinkler Select
- Accept Current Selection
- Cancel Current Selection
- Soft Keyboard Select
- QuickView

Specifications

- Pocket PC:
 - 3600 and 3800 Series iPaq™
- Memory:
 - 64 MB RAM
 - 32 MB Flash ROM
- Operating temperature:
 - 0°C–40°C (32°F–104°F)

Mechanical Specifications

- Dimensions:
 - 129,7 x 83 x 16mm, H x W x D
 - (5.11" x 3.28" x 0.62" H x W x D)
- Weight:
 - 189,9 gm (6.7 oz.)

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information

Order Number	Description
676-01	PRISM for OSMAC
676-02	PRISM for HHR1

*Only available to customers who have purchased an iPAQ through Toro NSN SitePro, OSMAC, Network LTC and Network 8000 are registered trademarks of The Toro Company. T.Map™, Network DR2™ and QuickView™ are trademarks of The Toro Company. iPaq and Compaq are trademarks of the Compaq Computer Corporation.

Toro Network Hand-held Radio Interface

The Network Hand-held radio resulted from our experience and leadership. We know that you can be a more effective turf manager if you are allowed to turn your system on or off, access central features, activate manual and syringe operations, or pause and resume your system—all from a remote location. So Toro developed a hand-held radio interface that communicates with user-friendly central software and advanced satellites.

Of course, we designed the product for simple set up and installation. And we made sure that you could accomplish all of the satellite activities you value—with very few keystrokes.

Features

- Optional for any SitePro central control system
- Simple command set
- Accesses central and satellite features from the field
- Clear audio verification of system commands
- Extensive start and syringe capabilities
- Comprehensive multi-manual functionality
- System and program pause and resume
- System On and Off command activation
- Minimum system compatibility:
 - SitePro
 - Network LTC
 - Network DR2
 - Network 8000
 - Network CDS
- UL listed, CSA certified
- Built-in programmable radio
- Less-radio models available for CE
- Telephone input allows control from a mobile or standard telephone



Network Hand-held

Ordering Information			
	XB	HHRI	OX
Communication	Hardware	External Transformer	
NB—Narrow Band WB—Wide Band	HHRI—Hand-held Radio Interface	01—110 V ac 02—Less Radio CE	
For Example: When specifying a Network Hand-held radio with narrow-band frequency and a 110 V ac transformer, you would order:			
<div style="border: 1px solid black; padding: 2px; display: inline-block;">NB-HHRI-01</div>			

Note: FCC license required.

Toro Network Radio-Link

Toro has perfected the use of radio communications for irrigation control. We've been at it longer and have more active radio-controlled irrigation systems in operation than all competitors combined.

Network Radio-Link offers you the flexibility to design your irrigation system unconfined by the limitations of distance or terrain. Oversized acreage and natural barriers are not a problem for Network Radio-Link.

Communicating where wires can't run, it's the bridge between non-contiguous wire-line systems and much more.

Features

- Network 8000 installations with large stainless steel pedestals
- Multi-port field interface allows one radio to be shared among many satellites
- Easy satellite installation
- Compatible with Network LTC Plus and Network 8000

Note: Products may not be available in all regions. Please consult your Toro regional manager for availability.

Ordering Information—TouchNet	
Model Number	Description
89-7611 89-7384	Radio-Link for Network 8000 Satellite Kit Radio-Link for Network 8000 and TouchNet (for Network LTC Plus) Centrals Kit

Note: FCC license required.

Ordering Information—SitePro and Network LTC Plus	
Model Number	Description
89-9116	FIU Kit Add-on Wire Path
89-9117	Radio-Link Kit for SitePro Central
89-9131	Network LTC Plus Radio-Link Kit for Plastic Cabinet Satellites
89-9132	Network LTC Plus Radio-Link Kit for Stainless Steel Cabinet Satellites

Note: FCC license required.

Toro Board Exchange Program

Meeting your immediate demands.

Let's face it—problems occur. You wake up one morning only to discover that your controller has been damaged in the night. It's a hot summer day, and you can't afford the downtime. Without a fast fix we're talking serious damage to your site.

That's why we developed the exclusive Board Exchange Program. The way it works is easy. Just call your Toro distributor and through their service team or your own, you'll get the replacement parts you need immediately.

The Board Exchange Program also includes low fixed-rate pricing, a 6-month warranty on replacement parts and repairs done by skilled professionals, using state-of-the-art equipment.

Speed

Time is of the essence. This is especially true when your site conditions and reputation could be compromised. Since that's the case, Toro distributors carry a large inventory of boards on hand. They are ready to facilitate immediate exchanges or complete same-day repairs.

Quality

Go right to the source for quality. Toro is the only manufacturer in the industry that offers such a program, allowing you to return to the source. We have only highly skilled technicians working on your repair in our state-of-the-art facility. And we are continually updating our engineering specifications, striving for improvement. These enhancements are passed onto you—automatically implemented into all repairs.

Support

We know your product; we know your needs. We are here to help. With a full team of Field Services Managers, Customer Support Representatives and Controller Repair Technicians, we are committed to your satisfaction. We also make it easy for you to call on us with a toll-free Customer Support line, (800) 664-4740.

6-Month Warranty

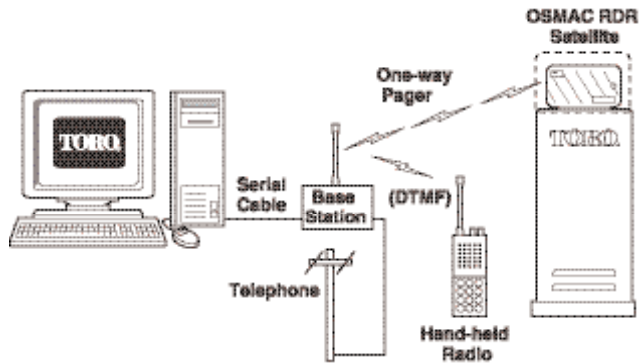
Peace of mind. Through your Toro distributor, we offer a 6-month warranty on all replacement parts. You have the confidence of knowing that we will back the work we do.

Work with your distributor should you need a fix, fast. And your distributor will put us to work for you.



Toro Communication Options

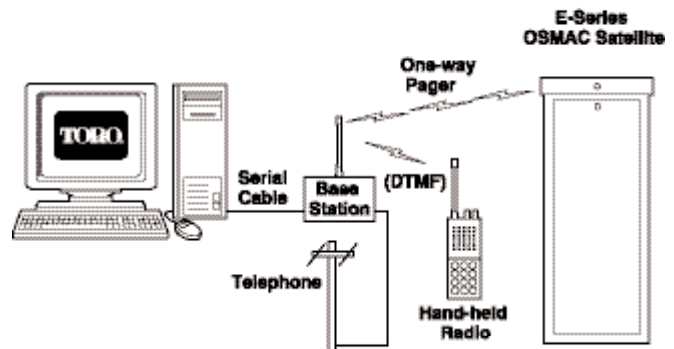
OSMAC Wireless Digital Paging System



Specify:

- SitePro Central
- OSMAC Base Station
- Hand-held Radio
- Mast Antenna (outside source)
- OSMAC RDR Satellite

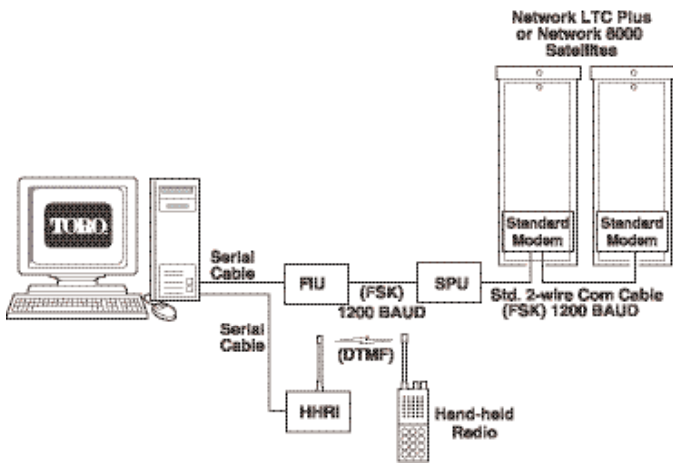
E-Series OSMAC Wireless Digital Paging System



Specify:

- SitePro Central
- OSMAC Base Station
- One Hand-held Radio
- One Mast Antenna (outside source)
- E-Series OSMAC Satellite

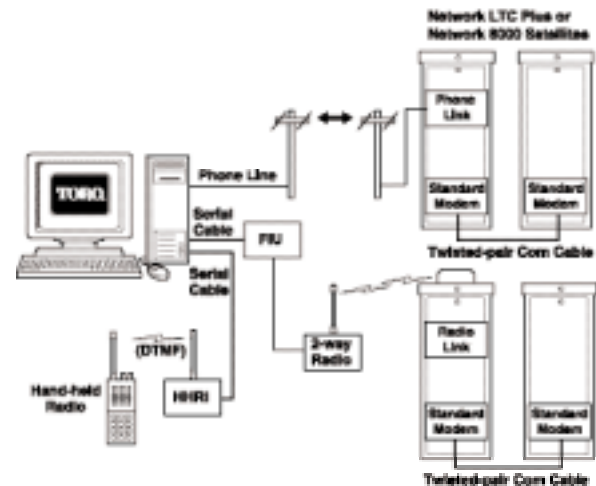
Network LTC Plus or Network 8000
w/Two-way Wireline System



Specify:

- SitePro Central
- Network Hand-held Radio Interface (HHRI) (includes Network Hand-held software)
- Hand-held Radio
- Mast Antenna (outside source)
- Network LTC Plus Satellites **or** Network 8000 Satellites

Network LTC Plus or Network 8000
w/Two-way Wireless or Phone-link System



Specify:

- SitePro Central
- Network Hand-held Radio Interface (HHRI) (includes Network Hand-held software)
- One Base Radio (outside source)
- Two Hand-held Radios
- Two Mast Antennas (outside source)
- Network LTC Plus Satellites **or** Network 8000 Satellites w/Network Radio-Link



NOTE:
Specify one year or five years of
NSN with each system.

Total Solutions



Golf, Home,
Cities, Parks,
Sportsfields



Products depicted are for illustration purposes only. Actual product offered for sale may vary in design, required attachments, and safety features. Not all products are sold in all countries.

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Count on it.