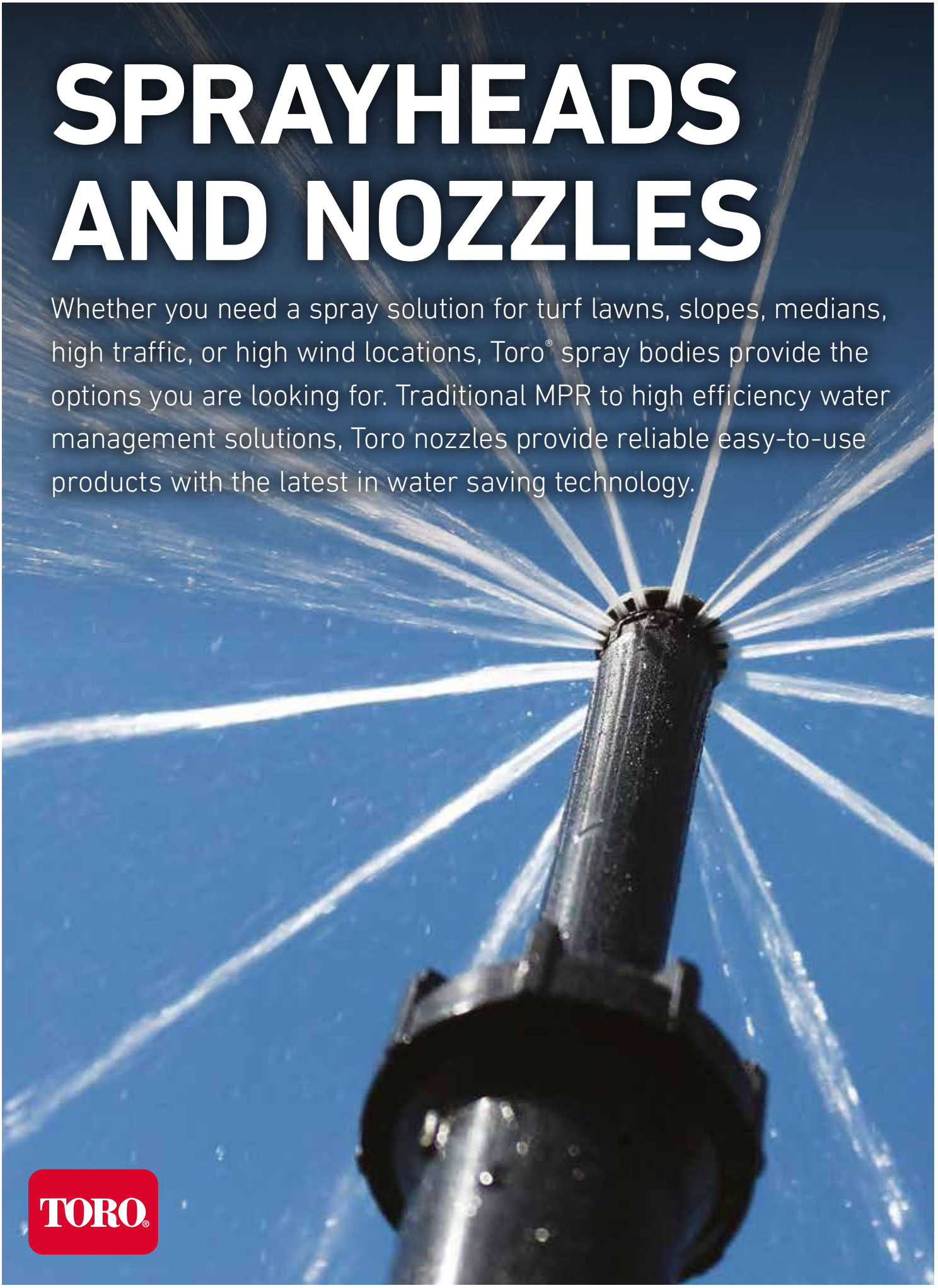
Residential & Commercial Irrigation

International Market

TORO®

SPRAYHEADS AND NOZZLES

Whether you need a spray solution for turf lawns, slopes, medians, high traffic, or high wind locations, Toro® spray bodies provide the options you are looking for. Traditional MPR to high efficiency water management solutions, Toro nozzles provide reliable easy-to-use products with the latest in water saving technology.



SPRAYHEADS AND NOZZLES

Pages 6-41


The Toro® LPS Series meets the demand without sacrificing quality. These fixed sprays feature a durable, compact body with a pressure activated seal that minimizes flow-by during start-up and keeps debris away during retraction
WATER SMART
TORO

LPS SERIES SPRAYS

FEATURES & BENEFITS

Pressure Activated Seal
Minimizes flow-by during pop-up and keeps debris away from stem during retraction.

Stainless Steel Retraction Spring
This heavy-duty spring ensures positive pop-down.

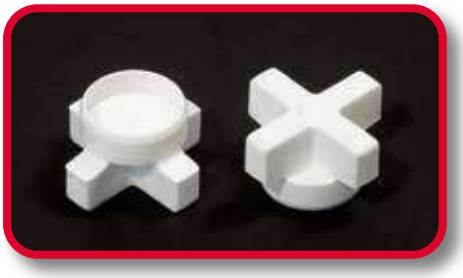
Easy Grip Top
Unique grip-and-turn adjustment from the top of the nozzle – wet or dry.

Removable Components
Nozzle, screen and internal components are easily removed for flushing and servicing.

Compatible With all Toro Sprayheads with male thread
Available with pre-installed Toro Variable Arc Nozzles (TVAN), Precision™ Series spray nozzles (Variable Radius) or Precision™ Series rotating nozzles

Check Valve Options Available

PRODUCT HIGHLIGHT



OPTIONAL CHECK VALVE

The LPS sprinkler series has an optional check valve rated to hold back 2,1m of elevation change.
This helps to eliminate low head drainage and keeps the lines charged to lessen water hammer potential.

WATER MANAGEMENT

Available with Precision™ Series Nozzles and Precision™ Series Rotating Nozzles preinstalled.

SPECIFICATIONS

Operational

- Radius: 0,6-7,9m
- Operating pressure range: 1,4-3,5 Bar
- Recommended pressure for TVAN nozzles: 2,1 Bar
- Pressure actuated sealing gasket. Cleaning flow between 0 and 0,7 bar with a flow rate of 1,9 l/min and above 0,7 bar closes
- Infinitely adjustable from 0° to 360°
- Top color-coded nozzles

PRN:

- Radius: 4,3m-7,9m
- Operating pressure range: 1,4-3,8 bar maximum: 5,2 bar
- Recommended pressure for rotating nozzles: 2,8-3,5 Bar
- Flow Rate: 0,6-13,9 L/min

Options

- LPSCV: Check Valve-Maintains up to 2,1 m elevation change

Dimensions

- Body diameter: 30mm
- Cap diameter: 41mm
- Inlet: ½" female-threaded

Warranty

- Two years

LPS SERIES MODEL LIST

Model	Description
LPS200	50mm (2") Pop-up w/o nozzle
LPS208	50mm (2") Pop-up w/TVAN8 installed
LPS210	50mm (2") Pop-up w/TVAN10 installed
LPS212	50mm (2") Pop-up w/TVAN12 installed
LPS215	50mm (2") Pop-up w/TVAN15 installed
LPS217	50mm (2") Pop-up w/TVAN17 installed
LPS400	100mm (4") Pop-up w/o nozzle
LPS408	100mm (4") Pop-up w/TVAN8 installed
LPS410	100mm (4") Pop-up w/TVAN10 installed
LPS412	100mm (4") Pop-up w/TVAN12 installed
LPS415	100mm (4") Pop-up w/TVAN15 installed
LPS417	100mm (4") Pop-up w/TVAN17 installed
53877	Multi-Stream PRN (Adjustable) PRN-TA
53878	Multi-Stream PRN (Full) PRN-TF
53892	100mm (4") LPS Spray w/ Variable Radius Precision™ Series Nozzle, Quarter Circle
53893	100mm (4") LPS Spray w/ Variable Radius Precision™ Series Nozzle, Half Circle
53894	100mm (4") LPS Spray w/ Variable Radius Precision™ Series Nozzle, Full Circle

Specifying Information—LPS Series

LPS X XX CV				
Base Model	*Pop-Up Height*	*Nozzle*		*Optional*
LPS	XX	XX		XXX
LPS—LPS Fixed Spray	2 — 2" (50mm) 4 — 4" (100mm)	00—Body Only* 08— 2,4m (8')* 10— 3,0m (10')	12— 3,7m (12') 15— 4,6m (15') 17— 5,2m (17')	CV — Check Valve
Example: A 100mm (4") Fixed-spray Sprinkler with a 3,0m (10') nozzle, would be specified as: **LPS410**				

*4" only


RUGGED – FLEXIBLE – VERSATILE – RELIABLE: Toro® 570Z Series spray heads provide a durable solution for residential and commercial contractors to satisfy all installation and retrofit requirements. In combination with Toro spray and rotating nozzles, 570Z Series spray heads can be configured in hundreds of combinations and present an unparalleled range of flexibility. Available in 2", 3", 4", 6" and 12" models with both bottom and side inlet thread options, Toro 570Z Series spray heads are further available with patented in-stem X-Flow® Technology and Pressure Regulating water-saving features. Trusted for over 25 years, Toro's 570Z Series spray heads are the ideal choice.
WATER SMART®
TORO®

570Z SERIES SPRAYS

FEATURES & BENEFITS

Zero Flush Wiper Seal

The elimination of flushing on pop-up allows for more sprinklers to be installed per zone.

Patented X-Flow® Technology

The X-Flow in-stem flow shut-off device is built into the riser and restricts water loss by 99% should the nozzle be removed or damaged. The exclusive X-Flow device greatly reduces water waste, landscape erosion, and wet hardscape safety concerns. Furthermore, X-Flow allows for 'dry' nozzle and filter replacement or system maintenance while the system is running.

One-Piece Check Valve (570CV)

Pre-installed from the factory or easily installed in the field, Toro's one-piece check valve prevents low-head drainage on elevation changes of up to 3 m.

Ratcheting Riser

Quick and precise arc adjustment on all pop-up models.

Options Available

- ✔ 570HP check valve holds water in side lines at drops of up to 4.2 m (14 ft), eliminating sprinkler drainage located at the lowest point on slopes or hills sholds the water in the side pipes in the presence of differences in level up to 3 m, eliminating the drainage of the sprinkler positioned at the lowest point (not compatible with models with side connection)
- ✔ Replacement Zero-Flush seal (570SEAL)
- ✔ Effluent water indicators:
  – Effluent Shrub Adapter (102-0563)-
  – Effluent snap-on cap cover (89-9752)
  – Effluent Cap with seal (102-1211)
- ✔ 6" (15cm) Riser Extender (570-6X)
- ✔ 6" (15cm) Stationary Riser (570-SR-6) [1/2" male-threaded inlet]
- ✔ 18" (45cm) Stationary Riser (570-SR-18) [1/2" male-threaded inlet]
- ✔ Riser Pull-up Tool (89-6395)
- ✔ Nozzle Adjustment Key (89-7350)

Additional Features

- ✔ Corrosion-resistant stainless steel retraction spring
- ✔ All models shipped with installed flush plug

Effluent Options Available

Check Valve Options Available

PRODUCT HIGHLIGHT

COM models with pre-installed sealing gasket, allows the turret to be lifted without water loss

No Water Wasted at System Start

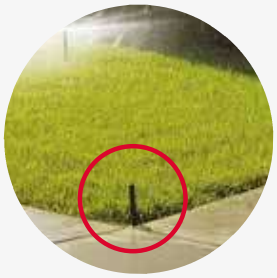
System start up is a critical time when water waste can occur. The Toro 570Z Series spray head's wiper seal is pressure-activated and prevents flow-by at start up, meaning no water is wasted and more heads can be installed on the same line.

Models PR and PRX with Patented X-Flow® Shut-off Device

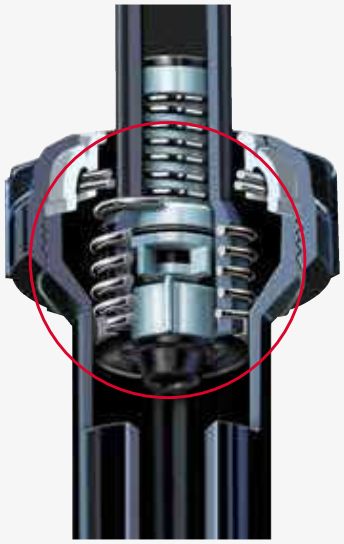
X-Flow® Technology Cuts Off Water Waste

Up to 151 liters of water per minute can escape through a spray head that has a missing or damaged nozzle. This wasted water can lead to landscape erosion, property damage, or unsafe conditions due to wet hardscapes. The patented X-Flow device is factory-installed in the riser and holds back over 99% of the water that would otherwise be wasted in cases where the nozzle has been compromised through unintentional accidents or vandalism. Furthermore, X-Flow Technology allows for spray head maintenance or component replacement without the need to turn off the system.

Without X-Flow



With X-Flow



Models PR and PRX with Pressure Regulator

Reliability thanks to Built-in Pressure Regulation

Toro's factory-installed pressure regulator eliminates water misting and fogging at the nozzle that can lead to rapid evaporation or water being blown away from the intended irrigation area. From the first to the last head, the in-stem pressure regulator provides a steady outlet pressure of 2,1 bar and consistent spray head performance across the zone.

Without Pressure Regulation

With Pressure Regulation

SPECIFICATIONS

Operational

- Radius: 0,6 - 7,9 m
- Operating pressure range: 1,4-5,2 Bar (1,0-5,2 Bar for Low Pressure models)
- Recommended operating pressure for spray nozzles: 2,1 Bar
- Recommended operating pressure for rotating nozzles: 2,8-3,5 Bar
- Flow rate: 0,2 – 17,0 l/min

Dimensions

- Body diameter:
  - 35mm (13/8") on 2P, 3P, 4P, 6P and 6P SI models
  - 41mm (15/8") on 12P
  - 45mm (1 ¾") on 12P SI
- Cap diameter: 50mm (2")
- Inlet: ½" female-threaded
- Side inlet: 4¾" from top of sprinkler to center of side inlet

Warranty

- Five years on 570ZPR and 570ZPRX models
- Two years on 570Z, 570ZLP and 570ZXF

570Z & 570ZLP

570S
Shrub Adapter

570Z-2P Spray Head
570Z-2LP 2" Spray Head, Low Pressure

570Z-3P 3" Spray Head
570Z-3LP 3" Spray Head, Low Pressure

570Z-4P 4" Spray Head
570Z-4LP 4" Spray Head, Low Pressure

570Z-6P 6" Spray Head
570Z-6LP 6" Spray Head, Low Pressure

570Z-6SI 6" Spray Head, Side Inlet body
570Z-6LPSI 6" Spray Head, Low Pressure, Side Inlet body

570Z-12P 12" Spray Head
570Z-12LP 12" Spray Head, Low Pressure

570Z-12SI 12" Spray Head, Side Inlet body
570Z-12LPSI 12" Spray Head, Low Pressure, Side Inlet body

570Z-4P-COM 4" Spray Head with Check Valve

570Z-6P-COM 6" Spray Head with Check Valve

570Z-12P-COM 12" Spray Head with Check Valve

570ZXF

570S-XF
Shrub Adapter with X-Flow

570Z-4P-XF
4" XF Spray Head

570Z-6P-XF
6" XF Spray Head

570Z-6SI-XF
6" XF Spray Head, Side Inlet Body

570Z-12P-XF
12" XF Spray Head

570Z-12SI-XF
12" XF Spray Head, Side Inlet Body

570Z-4P-XFCOM
4" XF Spray Head with Check Valve

570Z-6P-XFCOM
6" XF Spray Head with Check Valve

570Z-12P-XFCOM
12" XF Spray Head with Check Valve

Note:all w/o nozzle

570ZPR

570S-PR
PR Shrub Adapter

570Z-4P-PR
4" PR Spray Head

570Z-6P-PR
6" PR Spray Head

570Z-12P-PR
12" PR Spray Head

570Z-4P-PRCOM
4" PR Spray Head with Check Valve

570Z-6P-PRCOM
6" PR Spray Head with Check Valve

570Z-12P-PRCOM
12" PR Spray Head with Check Valve

570ZPRX

570S-PRX
PRX Shrub Adapter

570Z-4P-PRX
4" PRX Spray Head

570Z-6P-PRX
6" PRX Spray Head

570Z-6SI-PRX
6" PRX Spray Head, Side Inlet Body

570Z-12P-PRX
12" PRX Spray Head

570Z-12SI-PRX
12" PRX Spray Head, Side Inlet Body

570Z-4P-PRXCOM
4" PRX Spray Head with Check Valve

570Z-6P-PRXCOM
6" PRX Spray Head with Check Valve

570Z-12P-PRXCOM
12" PRX Spray Head with Check Valve

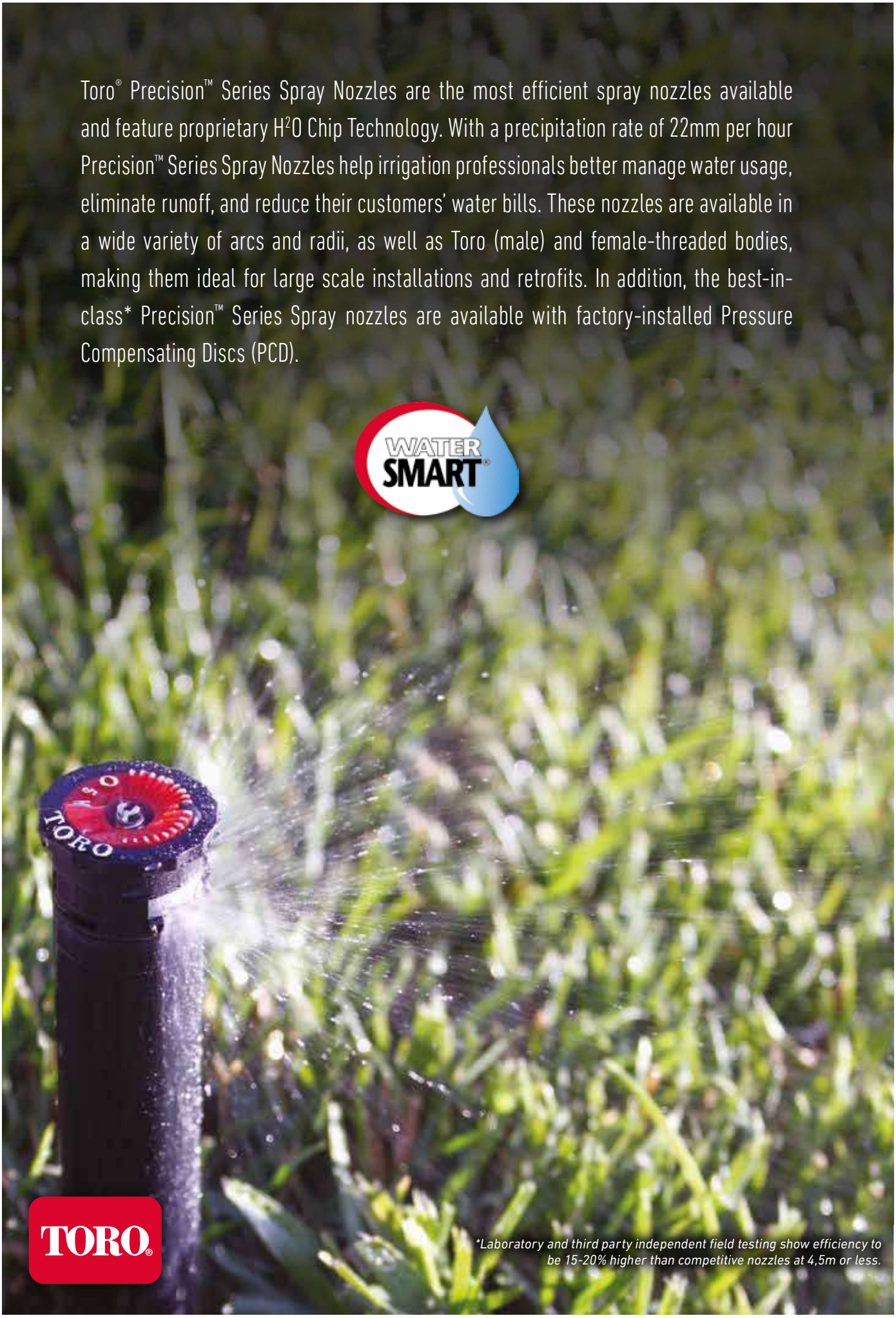
Specifying Information—570Z Series

570X-XXXXX-XXXXXXX

Base Model	Pop-Up Height	Spring and Inlet	Optional	Optional	Optional
570X	XX	XXX-	XXX	XXX	X
S — Shrub Z — Lawn Pop-up	2 — 2" (50cm) 3 — 3" (75cm) 4 — 4" (100cm) 6 — 6" (150cm) 12 — 12" (300cm)	P — Standard LP — Low Pressure SI — Std. Side Inlet* LPSI — Low Pressure SI	XF — X-Flow® Technology PR — Pressure Regulator PRX — Pressure Regulator with XF	COM — Check Valve**	E — Effluent

Example: A 570Z PRX Series Sprinkler with a 6" pop-up height, side inlet would be specified as: **570Z-6SI-PRX**

**Available for 6" and 12" models. **Available with non-side inlet models.*


Toro® Precision™ Series Spray Nozzles are the most efficient spray nozzles available and feature proprietary H²O Chip Technology. With a precipitation rate of 22mm per hour Precision™ Series Spray Nozzles help irrigation professionals better manage water usage, eliminate runoff, and reduce their customers' water bills. These nozzles are available in a wide variety of arcs and radii, as well as Toro (male) and female-threaded bodies, making them ideal for large scale installations and retrofits. In addition, the best-in-class* Precision™ Series Spray nozzles are available with factory-installed Pressure Compensating Discs (PCD).
WATER SMART
TORO
TORO
TORO®
*Laboratory and third party independent field testing show efficiency to be 15-20% higher than competitive nozzles at 4,5m or less.

PRECISION™ SERIES SPRAY NOZZLES

FEATURES & BENEFITS

Patented H²0 Chip Technology

Each nozzle contains one or more H²O chips that create a high frequency oscillating stream and deliver a precipitation rate of 22mm per hour – an industry first – while using up to 35% less water than a standard MPR nozzle.

Pressure-Compensating Versions Available

At a fraction of the cost of a pressure-regulating spray head, pressure-compensating Precision™ Series Spray Nozzles maintain a 22mm per hour precipitation rate and minimize misting and water waste that results from higher pressure systems.

Design and Retrofit Effectiveness

The lower flow rate of Precision™ Series Spray Nozzles maximizes design efficiency and helps reduce overall material costs based on the need for fewer valves and controller stations.

Third-Party Performance Validation

Precision™ Series Spray Nozzles* have been tested and validated in the field and at the Center for Irrigation Technology (CIT).

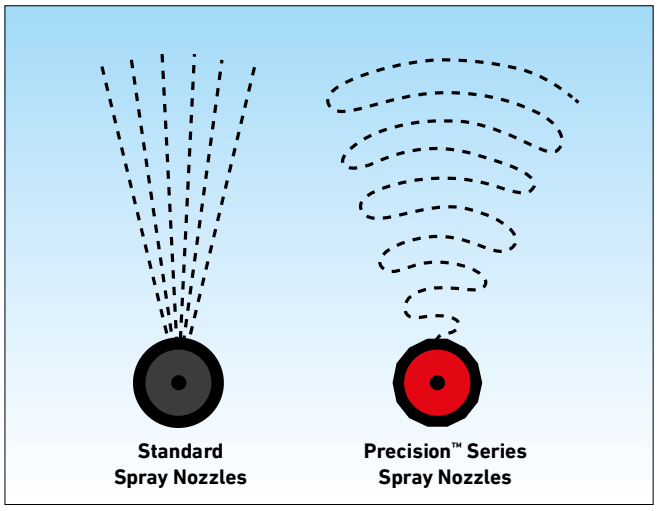
** non-PCD models only*

Additional Features

- Specialty Arcs available (60°, 120°, 150°, 210°*, 240°)
- Radius reduction capability of 25%
- Matched precipitation rate after radius adjustment
- Screen attached to nozzle for easy insertion into the spray body

Male-threaded Model

Female-threaded Model



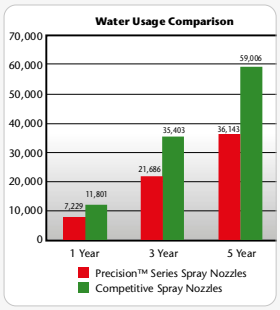
Patented H²0 Chip Technology Delivers Improved Uniformity
Water enters a specially designed chamber within the H²O Chip where the water expands and collapses, creating an oscillating effect. Consistent-sized water droplets exit the Chip in the designed arc pattern and radius with clean edge definition, class-leading distribution uniformity, and reduced water usage.

Pressure Compensating Disc (PCD)
The elastomeric PCD adjusts in response to changes in inlet pressure to maintain optimal nozzle performance. Recommended for use on systems operating above 2,8 Bar, PCD models can easily be identified by the red Toro lettering across the top of the nozzle.

PRODUCT HIGHLIGHT

25mm Per Hour Matched Precipitation & One-For-One Retrofit

Perfect when upgrading conventional, higher flow spray nozzles... Look for the "O" stamped on top of the nozzle.



Higher Overall Irrigation Efficiency From 1,5-4,6m

Precision™ Series Spray nozzles perform more like a small rotor. The H^20 Chip enables the nozzles to achieve distances of throw equivalent to those of conventional spray nozzles – but with one-third less flow and higher overall irrigation efficiency.

Water Use Reduction While Minimizing Run-Off & Water Waste

Precision™ Series Spray Nozzles have proven to save water in the field while reducing unnecessary overspray, wasteful run-off and evaporation.

Nozzle Selection Second To None

Available in male and female threaded models with a radius between 1,5 and 4,6m and the nozzle tops are color-coded to indicate the specific radius.
Available in models with 9 different arcs between 60° and 360°, and specialty arcs such as right and left corners and center strips. All Precision™ nozzles can be used with operating pressures of between 1,4 and 3,5 Bar

SPECIFICATIONS

Operational

- Radius: 1,5-4,6 m
- Operating pressure range: 2.8-5,2 Bar
- Recommended operating pressure:
  - Non-Pressure Compensating: 2,0 Bar
  - Pressure Compensating - 3,5 Bar
- Flow Rate: 0,15-9,6 l/m
- Nozzle trajectory:
  - 1,5m (5'): 5°
  - 2,4m (8'): 10°
  - 3,0m (10'): 15°
  - 3,7m (12'): 20°
  - 4,6m (15'): 27°
  - Corner and Side Strips: 20°

Warranty

- Two years

Laboratory and third party independent field testing show efficiency to be 15-20% higher than competitive nozzles at 4,6m or less.

PRECISION™ SERIES SPRAY NOZZLE MODEL LIST

1,5M (5') NOZZLE (RED)			2,4M (8') NOZZLE (GREEN)		
Male	Female	Pattern	Male	Female	Pattern
O-T-5-60	O-5-60	60° Arc	O-T-8-60	O-8-60	60° Arc
O-T-5-Q	O-5-Q	90° Arc	O-T-8-Q	O-8-Q	90° Arc
O-T-5-T	O-5-T	120° Arc	O-T-8-T	O-8-T	120° Arc
O-T-5-150	O-5-150	150° Arc	O-T-8-150	O-8-150	150° Arc
O-T-5-H	O-5-H	180° Arc	O-T-8-H	O-8-H	180° Arc
O-T-5-210	O-5-210	210° Arc	O-T-8-210	O-8-210	210° Arc
O-T-5-TT	O-5-TT	240° Arc	O-T-8-TT	O-8-TT	240° Arc
O-T-5-TQ	O-5-TQ	270° Arc	O-T-8-TQ	O-8-TQ	270° Arc
O-T-5-F	O-5-F	360° Arc	O-T-8-F	O-8-F	360° Arc
3,0M (10') NOZZLE (BLUE)			**3,7M (12') NOZZLE (BROWN)**		
O-T-10-60	O-10-60	60° Arc	O-T-12-60	O-12-60	60° Arc
O-T-10-Q	O-10-Q	90° Arc	O-T-12-Q	O-12-Q	90° Arc
O-T-10-T	O-10-T	120° Arc	O-T-12-T	O-12-T	120° Arc
O-T-10-150	O-10-150	150° Arc	O-T-12-150	O-12-150	150° Arc
O-T-10-H	O-10-H	180° Arc	O-T-12-H	O-12-H	180° Arc
O-T-10-210	O-10-210	210° Arc	O-T-12-210	O-12-210	210° Arc
O-T-10-TT	O-10-TT	240° Arc	O-T-12-TT	O-12-TT	240° Arc
O-T-10-TQ	O-10-TQ	270° Arc	O-T-12-TQ	O-12-TQ	270° Arc
O-T-10-F	O-10-F	360° Arc	O-T-12-F	O-12-F	360° Arc
4,6M (15') NOZZLE (BLACK)			**SPECIAL PATTERNS (GREY)**		
O-T-15-60	O-15-60	60° Arc	Male	Female	
O-T-15-Q	O-15-Q	90° Arc	O-T-4X9-RCS	O-4X9-RCS	Right Corner
O-T-15-T	O-15-T	120° Arc	O-T-4X9-LCS	O-4X9-LCS	Left Corner
O-T-15-150	O-15-150	150° Arc	O-T-4X18-SST	O-4X18-SST	Side Strip
O-T-15-H	O-15-H	180° Arc	O-T-4X15-RCS	O-4X15-RCS	Right Corner
O-T-15-210	O-15-210	210° Arc	O-T-4X15-LCS	O-4X15-LCS	Left Corner
O-T-15-TT	O-15-TT	240° Arc	O-T-4X30-SST	O-4X30-SST	Side Strip
O-T-15-TQ	O-15-TQ	270° Arc			
O-T-15-F	O-15-F	360° Arc			

PRESSURE-COMPENSATING PRECISION™ SERIES SPRAY NOZZLE MODEL LIST

1,5M (5') NOZZLE (RED)			2,4M (8') NOZZLE (GREEN)		
Male	Female	Pattern	Male	Female	Pattern
O-T-5-60P	O-5-60P	60° Arc	O-T-8-60P	O-8-60P	60° Arc
O-T-5-QP	O-5-QP	90° Arc	O-T-8-QP	O-8-QP	90° Arc
O-T-5-TP	O-5-TP	120° Arc	O-T-8-TP	O-8-TP	120° Arc
O-T-5-150P	O-5-150P	150° Arc	O-T-8-150P	O-8-150P	150° Arc
O-T-5-HP	O-5-HP	18° Arc	O-T-8-HP	O-8-HP	18° Arc
O-T-5-210P	O-5-210P	210° Arc	O-T-8-210P	O-8-210P	210° Arc
O-T-5-TTP	O-5-TTP	240° Arc	O-T-8-TTP	O-8-TTP	240° Arc
O-T-5-TQP	O-5-TQP	270° Arc	O-T-8-TQP	O-8-TQP	270° Arc
O-T-5-FP	O-5-FP	360° Arc	O-T-8-FP	O-8-FP	360° Arc
3,0M (10') NOZZLE (BLUE)			**3,7M (12') NOZZLE (BROWN)**		
O-T-10-60P	O-10-60P	60° Arc	O-T-12-60P	O-12-60P	60° Arc
O-T-10-QP	O-10-QP	90° Arc	O-T-12-QP	O-12-QP	90° Arc
O-T-10-TP	O-10-TP	120° Arc	O-T-12-TP	O-12-TP	120° Arc
O-T-10-150P	O-10-150P	150° Arc	O-T-12-150P	O-12-150P	150° Arc
O-T-10-HP	O-10-HP	18° Arc	O-T-12-HP	O-12-HP	18° Arc
O-T-10-210P	O-10-210P	210° Arc	O-T-12-210P	O-12-210P	210° Arc
O-T-10-TTP	O-10-TTP	240° Arc	O-T-12-TTP	O-12-TTP	240° Arc
O-T-10-TQP	O-10-TQP	270° Arc	O-T-12-TQP	O-12-TQP	270° Arc
O-T-10-FP	O-10-FP	360° Arc	O-T-12-FP	O-12-FP	360° Arc
4,6M (15') NOZZLE (BLACK)			**SPECIAL PATTERNS (GREY)**		
O-T-15-60P	O-15-60P	60° Arc	Male	Female	
O-T-15-QP	O-15-QP	90° Arc	O-T-4X9-RCSP	O-4X9-RCSP	Right Corner
O-T-15-TP	O-15-TP	120° Arc	O-T-4X9-LCSP	O-4X9-LCSP	Left Corner
O-T-15-150P	O-15-150P	150° Arc	O-T-4X18-SSTP	O-4X18-SSTP	Side Strip
O-T-15-HP	O-15-HP	18° Arc	O-T-4X15-RCSP	O-4X15-RCSP	Right Corner
O-T-15-210P	O-15-210P	210° Arc	O-T-4X15-LCSP	O-4X15-LCSP	Left Corner
O-T-15-TTP	O-15-TTP	240° Arc	O-T-4X30-SSTP	O-4X30-SSTP	Side Strip
O-T-15-TQP	O-15-TQP	270° Arc			
O-T-15-FP	O-15-FP	360° Arc			

Specifying Information-Precision™ Series Spray Nozzles

O-X-XXXX-XXXX-P

Nozzle	*Thread*	*Radius*		*Arc*		*PCD*
O	**X**	**XXXX**		**XXXX**		**P**
O—25mm (1") Per Hour	T —Toro Male-Threaded Nozzle Blank —Female Threaded Nozzle	5— 1,5m (5') 8— 2,4m (8') 10— 3,0m (10') 12— 3,7m (12') 15— 4,6m (15')	4X15 —1,2mX4,6m (4'X15') *(PCD Models only)* 4X30 — 1,2mX9,1m (4'X30') *(PCD Models only)* 4X9 — 1,2mX2,7m (4'X9') 4X18 — 1,2mX5,5m (4'X18')	60 — 60°* Q — 90° T — 120° 150 — 150°* H — 180° 210 — 210°*	TT — 240° TQ — 270° F — 360° -Full Circle LCS — Left Corner RCS — Right Corner SST — Side Strip	P—Pressure Compensating

Example: A female-threaded Precision™ Series Spray with a spray radius of 3,7m (12') and a 90° arc would be specified as: O-12-Q
Example 2: A male-threaded Pressure-Compensating Precision™ Series Spray with a spray radius of 3,0m (10') and a 180° arc would be spcified as O-T-10-HP

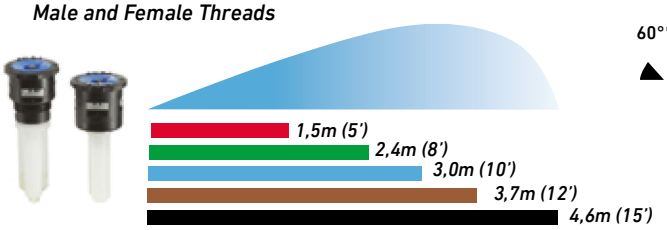
**Not available with Pressure Compensation.*

PRECISION™ SERIES SPRAY NOZZLES

PERFORMANCE DATA PRESSURE COMPENSATING – PRECISION™ SERIES SPRAY NOZZLES

Arc	model # (0-XX-XX)	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲	model # (0-XX-XX)	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲	model # (0-XX-XX)	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲
60°	5-60P	2,8	0,26	1,8	35,6	30,5	8-60P	2,8	0,42	2,3	33,0	27,9	10-60P	2,8	0,61	2,9	30,5	25,4
		3,4	0,26	1,7	38,1	33,0		3,4	0,42	2,3	33,0	30,5		3,4	0,68	3,0	27,9	25,4
		4,1	0,26	1,8	30,5	25,4		4,1	0,45	2,3	35,6	33,0		4,1	0,76	3,2	27,9	25,4
		4,8	0,30	2,0	30,5	25,4		4,8	0,53	2,4	35,6	30,5		4,8	0,83	3,4	30,5	27,9
90°	5-QP	2,8	0,23	1,4	30,5	25,4	8-QP	2,8	0,53	2,1	33,0	27,9	10-QP	2,8	0,98	2,9	27,9	25,4
		3,4	0,30	1,6	35,6	30,5		3,4	0,64	2,3	33,0	30,5		3,4	1,06	3,0	30,5	27,9
		4,1	0,34	1,7	38,1	33,0		4,1	0,76	2,6	35,6	30,5		4,1	1,10	3,0	33,0	27,9
		4,8	0,42	1,9	43,2	38,1		4,8	0,87	2,8	35,6	33,0		4,8	1,17	3,2	35,6	30,5
120°	5-TP	2,8	0,26	1,3	27,9	25,4	8-TP	2,8	0,76	2,3	30,5	25,4	10-TP	2,8	1,17	3,0	27,9	25,4
		3,4	0,42	1,5	38,1	33,0		3,4	0,91	2,4	33,0	27,9		3,4	1,36	3,1	30,5	27,9
		4,1	0,57	1,7	50,8	43,2		4,1	1,02	2,6	35,6	30,5		4,1	1,55	3,2	35,6	30,5
		4,8	0,72	1,8	61,0	50,8		4,8	1,17	2,7	38,1	33,0		4,8	1,74	3,3	38,1	33,0
150°	5-150P	2,8	0,38	1,5	28,2	24,4	8-150P	2,8	1,21	2,4	33,0	27,9	10-150P	2,8	1,78	2,9	35,6	30,5
		3,4	0,45	1,6	30,0	26,2		3,4	1,21	2,6	30,5	25,4		3,4	1,85	3,0	33,0	27,9
		4,1	0,49	1,6	30,2	26,2		4,1	1,21	2,4	33,0	27,9		4,1	1,93	3,0	35,6	30,5
		4,8	0,53	1,8	28,2	24,4		4,8	1,21	2,4	33,0	27,9		4,8	2,01	3,0	33,0	27,9
180°	5-HP	2,8	0,38	1,3	30,5	25,4	8-HP	2,8	0,98	2,1	30,5	25,4	10-HP	2,8	1,82	2,9	27,9	25,4
		3,4	0,49	1,5	33,0	27,9		3,4	1,25	2,3	33,0	27,9		3,4	2,01	3,0	30,5	27,9
		4,1	0,61	1,6	38,1	33,0		4,1	1,48	2,5	35,6	30,5		4,1	2,16	3,1	33,0	27,9
		4,8	0,72	1,8	40,6	35,6		4,8	1,74	2,7	38,1	33,0		4,8	2,35	3,2	35,6	30,5
210°	5-210P	2,8	0,61	1,5	30,5	27,9	8-210P	2,8	1,29	2,4	25,4	22,9	10-210P	2,8	2,16	2,9	30,5	27,9
		3,4	0,68	1,7	27,9	25,4		3,4	1,44	2,4	27,9	25,4		3,4	2,42	3,0	30,5	27,9
		4,1	0,76	1,8	27,9	22,9		4,1	1,59	2,4	33,0	27,9		4,1	2,65	3,1	33,0	30,5
		4,8	0,79	1,8	27,9	25,4		4,8	1,70	2,4	33,0	30,5		4,8	2,84	3,3	35,6	30,5
240°	5-TTP	2,8	0,53	1,3	33,0	27,9	8-TTP	2,8	1,29	2,1	27,9	25,4	10-TTP	2,8	2,38	2,9	27,9	25,4
		3,4	0,76	1,5	38,1	33,0		3,4	1,63	2,4	30,5	27,9		3,4	2,65	3,0	30,5	27,9
		4,1	0,95	1,6	43,2	35,6		4,1	1,97	2,6	35,6	30,5		4,1	2,91	3,2	33,0	27,9
		4,8	1,17	1,8	45,7	40,6		4,8	2,31	2,8	38,1	33,0		4,8	3,18	3,3	35,6	30,5
270°	5-TQP	2,8	0,57	1,3	30,5	25,4	8-TQP	2,8	1,55	2,2	27,9	25,4	10-TQP	2,8	2,69	2,90	27,9	25,4
		3,4	0,79	1,5	35,6	30,5		3,4	1,82	2,4	30,5	27,9		3,4	2,91	3,02	30,5	25,4
		4,1	0,98	1,7	40,6	35,6		4,1	2,08	2,6	35,6	30,5		4,1	3,10	3,14	30,5	27,9
		4,8	1,21	1,9	43,2	38,1		4,8	2,35	2,8	38,1	33,0		4,8	3,33	3,26	33,0	27,9
360°	5-FP	2,8	0,64	1,2	30,5	25,4	8-FP	2,8	2,08	2,1	30,5	27,9	10-FP	2,8	3,60	2,93	27,9	25,4
		3,4	0,91	1,5	33,0	27,9		3,4	2,46	2,3	30,5	27,9		3,4	4,01	3,05	30,5	27,9
		4,1	1,17	1,7	35,6	30,5		4,1	2,80	2,4	33,0	27,9		4,1	4,39	3,20	33,0	27,9
		4,8	1,44	1,9	38,1	33,0		4,8	3,18	2,6	33,0	27,9		4,8	4,81	3,32	35,6	30,5

5 Radii Available in Toro Male and Female Threads



9 Arcs Plus Side and Corner Strips Available

*Not available with Pressure-Compensating

1,2m X 4,6m (4' X 15')
1,2m X 2,7m (4' X 9')

LCS (Left Corner Strip)

1,2m X 9,1m (4' X 30')
1,2m X 5,5m (4' X 18')

SST (Side Strip)

1,2m X 4,6m (4' X15')
1,2m X 2,7m (4' X 9')

RCS (Right Corner Strip)

PERFORMANCE DATA PRESSURE COMPENSATING – PRECISION™ SERIES SPRAY NOZZLES

Arc	model # (0-XX-XX)	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲
60°	12-60P	2,8	1,14	4,0	30,5	25,4
		3,4	1,14	4,0	30,5	25,4
		4,1	1,14	4,0	30,5	25,4
		4,8	1,14	4,0	30,5	25,4
90°	12-QP	2,8	1,29	3,7	30,5	25,4
		3,4	1,48	3,7	33,0	27,9
		4,1	1,63	3,8	33,0	30,5
		4,8	1,82	3,9	35,6	30,5
120°	12-TP	2,8	1,74	3,5	30,5	25,4
		3,4	1,89	3,6	30,5	25,4
		4,1	2,04	3,7	33,0	27,9
		4,8	2,20	3,7	33,0	27,9
150°	12-150P	2,8	2,23	3,7	27,9	25,4
		3,4	2,50	3,5	33,0	30,5
		4,1	2,73	3,7	33,0	30,5
		4,8	2,95	3,7	38,1	33,0
180°	12-HP	2,8	2,65	3,5	30,5	25,4
		3,4	2,84	3,6	30,5	25,4
		4,1	3,03	3,7	30,5	27,9
		4,8	3,22	3,8	30,5	27,9
210°	12-210P	2,8	3,26	3,4	35,6	30,5
		3,4	3,63	3,5	35,6	30,5
		4,1	3,97	3,7	35,6	30,5
		4,8	4,28	3,7	38,1	33,0
240°	12-TTP	2,8	3,41	3,5	30,5	25,4
		3,4	3,90	3,5	33,0	27,9
		4,1	4,39	3,5	33,0	30,5
		4,8	4,88	3,5	35,6	30,5
270°	12-TQP	2,8	3,97	3,5	30,5	25,4
		3,4	4,32	3,6	30,5	25,4
		4,1	4,66	3,7	33,0	27,9
		4,8	5,00	3,7	33,0	27,9
360°	12-FP	2,8	5,11	3,5	27,9	25,4
		3,4	5,64	3,6	30,5	25,4
		4,1	6,17	3,7	33,0	27,9
		4,8	6,70	3,8	33,0	27,9

model # (0-XX-XX)	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲
15-60P	2,8	1,36	4,4	30,5	27,9
	3,4	1,55	4,5	30,5	25,4
	4,1	1,70	4,6	33,0	27,9
	4,8	1,82	4,8	35,6	30,5
15-QP	2,8	2,01	4,3	30,5	25,4
	3,4	2,23	4,4	30,5	27,9
	4,1	2,42	4,4	33,0	27,9
	4,8	2,65	4,4	33,0	30,5
15-TP	2,8	2,73	4,4	30,5	25,4
	3,4	2,91	4,4	30,5	25,4
	4,1	3,10	4,3	30,5	27,9
	4,8	3,29	4,2	30,5	27,9
15-150P	2,8	3,52	4,3	33,0	27,9
	3,4	3,94	4,3	33,0	30,5
	4,1	4,32	4,3	38,1	33,0
	4,8	4,66	4,6	40,6	35,6
15-HP	2,8	4,16	4,4	30,5	25,4
	3,4	4,54	4,5	30,5	27,9
	4,1	4,88	4,6	33,0	27,9
	4,8	5,26	4,7	33,0	30,5
15-210P	2,8	4,66	4,3	30,5	25,4
	3,4	5,45	4,4	35,6	30,5
	4,1	5,91	4,5	38,1	33,0
	4,8	6,44	4,6	35,6	30,5
15-TTP	2,8	5,49	4,4	30,5	25,4
	3,4	5,94	4,5	30,5	25,4
	4,1	6,36	4,6	30,5	27,9
	4,8	6,81	4,7	33,0	27,9
15-TQP	2,8	6,06	4,27	25,4	22,9
	3,4	6,44	4,39	27,9	25,4
	4,1	6,81	4,51	30,5	25,4
	4,8	7,19	4,61	30,5	27,9
15-FP	2,8	8,33	4,42	30,5	25,4
	3,4	8,93	4,51	30,5	25,4
	4,1	9,54	4,61	30,5	27,9
	4,8	10,14	4,70	33,0	27,9

Arc	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲
4X30 SSTP	2,8	2,35	1.2x9.1	27,9	25,4
	3,4	2,46	1.2x9.1	30,5	25,4
	4,1	2,54	1.2x9.1	33,0	27,9
	4,8	2,65	1.2x9.1	33,0	27,9
4X15 LCSP	2,8	1,21	1.2x4.6	30,5	25,4
	3,4	1,25	1.2x4.6	30,5	27,9
	4,1	1,29	1.2x4.6	33,0	27,9
	4,8	1,32	1.2x4.6	33,0	30,5
4X15 RCSP	2,8	1,21	1.2x4.5	30,5	25,4
	3,4	1,25	1.2x4.6	30,5	27,9
	4,1	1,29	1.2x4.6	33,0	27,9
	4,8	1,32	1.2x4.6	33,0	30,5
4X18 SSTP	2,8	1,36	1.2x5.5	27,9	25,4
	3,4	1,40	1.2x5.5	30,5	25,4
	4,1	1,44	1.2x5.5	30,5	25,4
	4,8	1,48	1.2x5.5	30,5	25,4
4X9 LCSP	2,8	0,68	1.2x2.7	27,9	25,4
	3,4	0,72	1.2x2.7	30,5	27,9
	4,1	0,76	1.2x2.7	30,5	27,9
	4,8	0,79	1.2x2.7	33,0	30,5
4X9 RCSP	2,8	0,68	1.2x2.7	30,5	25,4
	3,4	0,72	1.2x2.7	30,5	27,9
	4,1	0,76	1.2x2.7	30,5	27,9
	4,8	0,79	1.2x2.7	33,0	30,5

PRECISION™ SERIES SPRAY NOZZLES

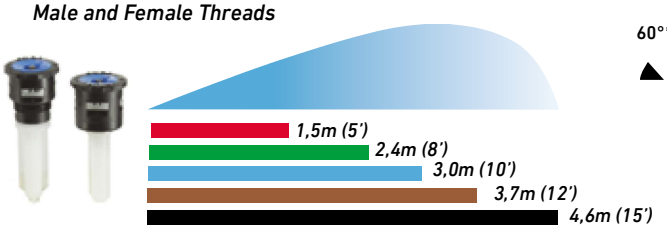
PERFORMANCE DATA – PRECISION™ SERIES SPRAY NOZZLES

Arc	model # (0-XX-XX)	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲
60°	5-60	1,4	0,15	1,4	30,5	25,4
		2,1	0,15	1,5	30,5	25,4
		2,8	0,15	1,5	30,5	25,4
		3,4	0,19	1,6	27,9	25,4
90°	5-Q	1,4	0,23	1,4	30,5	25,4
		2,1	0,23	1,5	27,9	25,4
		2,8	0,26	1,5	30,5	25,4
		3,4	0,26	1,5	30,5	25,4
120°	5-T	1,4	0,26	1,3	30,5	25,4
		2,1	0,34	1,5	30,5	25,4
		2,8	0,34	1,6	30,5	25,4
		3,4	0,38	1,6	27,9	25,4
150°	5-150	1,4	0,26	1,2	30,5	25,4
		2,1	0,42	1,5	30,5	25,4
		2,8	0,45	1,6	30,5	25,4
		3,4	0,49	1,6	30,5	25,4
180°	5-H	1,4	0,38	1,3	30,5	25,4
		2,1	0,49	1,5	30,5	25,4
		2,8	0,53	1,6	30,5	25,4
		3,4	0,53	1,6	27,9	25,4
210°	5-210	1,4	0,38	1,3	30,5	25,4
		2,1	0,57	1,6	30,5	27,9
		2,8	0,61	1,6	33,0	27,9
		3,4	0,64	1,7	33,0	27,9
240°	5-TT	1,4	0,53	1,3	33,0	27,9
		2,1	0,64	1,5	27,9	25,4
		2,8	0,72	1,5	30,5	27,9
		3,4	0,72	1,5	33,0	27,9
270°	5-TQ	1,4	0,57	1,3	30,5	25,4
		2,1	0,76	1,5	30,5	25,4
		2,8	0,79	1,5	30,5	27,9
		3,4	0,83	1,5	33,0	27,9
360°	5-F	1,4	0,64	1,2	30,5	25,4
		2,1	0,98	1,5	30,5	25,4
		2,8	0,98	1,5	30,5	25,4
		3,4	0,98	1,5	30,5	25,4

model # (0-XX-XX)	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲
8-60	1,4	0,38	2,3	30,5	25,4
	2,1	0,42	2,4	27,9	25,4
	2,8	0,45	2,5	30,5	27,9
	3,4	0,49	2,5	33,0	27,9
8-Q	1,4	0,53	2,1	33,0	27,9
	2,1	0,64	2,4	27,9	25,4
	2,8	0,68	2,5	30,5	25,4
	3,4	0,68	2,6	27,9	25,4
8-T	1,4	0,76	2,3	30,5	25,4
	2,1	0,83	2,4	27,9	25,4
	2,8	0,87	2,5	27,9	25,4
	3,4	0,91	2,5	27,9	25,4
8-150	1,4	0,95	2,3	30,5	25,4
	2,1	1,02	2,4	27,9	25,4
	2,8	1,06	2,5	27,9	25,4
	3,4	1,10	2,5	30,5	25,4
8-H	1,4	0,98	2,1	30,5	25,4
	2,1	1,25	2,4	27,9	25,4
	2,8	1,29	2,4	30,5	25,4
	3,4	1,29	2,4	30,5	25,4
8-210	1,4	1,25	2,3	33,0	27,9
	2,1	1,36	2,4	33,0	27,9
	2,8	1,40	2,5	33,0	27,9
	3,4	1,44	2,5	33,0	27,9
8-TT	1,4	1,29	2,1	30,5	25,4
	2,1	1,67	2,4	27,9	25,4
	2,8	1,74	2,4	30,5	25,4
	3,4	1,74	2,4	30,5	25,4
8-TQ	1,4	1,55	2,2	27,9	25,4
	2,1	1,85	2,4	27,9	27,9
	2,8	2,04	2,4	30,5	27,9
	3,4	2,08	2,4	30,5	27,9
8-F	1,4	2,08	2,1	30,5	27,9
	2,1	2,50	2,4	27,9	25,4
	2,8	2,57	2,4	30,5	25,4
	3,4	2,69	2,4	30,5	27,9

model # (0-XX-XX)	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲
10-60	1,4	0,61	2,9	30,5	25,4
	2,1	0,64	3,0	27,9	25,4
	2,8	0,68	3,0	30,5	25,4
	3,4	0,72	3,0	33,0	27,9
10-Q	1,4	0,98	2,9	27,9	25,4
	2,1	0,87	3,0	30,5	25,4
	2,8	1,06	3,1	30,5	25,4
	3,4	1,06	3,1	30,5	25,4
10-T	1,4	1,17	2,9	27,9	25,4
	2,1	1,29	3,0	27,9	25,4
	2,8	1,36	3,0	30,5	25,4
	3,4	1,40	3,0	30,5	27,9
10-150	1,4	1,55	3,0	27,9	25,4
	2,1	1,63	3,0	27,9	25,4
	2,8	1,67	3,1	27,9	25,4
	3,4	1,74	3,2	27,9	25,4
10-H	1,4	1,82	3,0	27,9	25,4
	2,1	1,93	3,0	27,9	25,4
	2,8	2,08	3,1	30,5	25,4
	3,4	2,12	3,2	30,5	25,4
10-210	1,4	2,12	3,0	33,0	27,9
	2,1	2,20	3,0	33,0	27,9
	2,8	2,27	3,2	30,5	27,9
	3,4	2,35	3,2	33,0	27,9
10-TT	1,4	2,38	2,9	27,9	25,4
	2,1	2,61	3,0	30,5	25,4
	2,8	2,76	3,1	27,9	25,4
	3,4	2,80	3,2	27,9	25,4
10-TQ	1,4	2,69	2,9	27,9	25,4
	2,1	2,99	3,0	27,9	25,4
	2,8	3,18	3,1	27,9	25,4
	3,4	3,26	3,2	27,9	25,4
10-F	1,4	3,60	2,9	27,9	25,4
	2,1	3,90	3,0	27,9	25,4
	2,8	4,09	3,1	27,9	25,4
	3,4	4,24	3,2	30,5	25,4

5 Radii Available in Toro Male and Female Threads



9 Arcs Plus Side and Corner Strips Available

60°* 90°/Q 120°/T 150°* 180°/H 210°* 240°TT 270°/TQ 360°/F

*Not available with Pressure-Compensating

1,2m X 4,6m (4' X 15')
1,2m X 2,7m (4' X 9')

LCS (Left Corner Strip)

1,2m X 9,1m (4' X 30')
1,2m X 5,5m (4' X 18')

SST (Side Strip)

1,2m X 4,6m (4' X15')
1,2m X 2,7m (4' X 9')

RCS (Right Corner Strip)

PERFORMANCE DATA – PRECISION™ SERIES SPRAY NOZZLES

Arc	model # (0-XX-XX)	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲
60°	12-60	1,4	0,91	3,5	30,5	25,4
		2,1	0,95	3,7	30,5	25,4
		2,8	0,98	3,7	30,5	25,4
		3,4	1,06	3,7	33,0	27,9
90°	12-Q	1,4	1,29	3,7	30,5	25,4
		2,1	1,40	3,7	27,9	25,4
		2,8	1,48	3,5	30,5	25,4
		3,4	1,48	3,7	27,9	25,4
120°	12-T	1,4	1,74	3,5	30,5	25,4
		2,1	1,85	3,7	27,9	25,4
		2,8	1,93	3,7	27,9	25,4
		3,4	1,97	3,7	27,9	25,4
150°	12-150	1,4	2,27	3,5	30,5	25,4
		2,1	2,35	3,7	27,9	25,4
		2,8	2,38	3,7	27,9	25,4
		3,4	2,42	3,7	27,9	25,4
180°	12-H	1,4	2,65	3,5	30,5	25,4
		2,1	2,80	3,7	27,9	25,4
		2,8	2,99	3,7	30,5	25,4
		3,4	3,03	3,8	30,5	25,4
210°	12-210	1,4	2,88	3,5	33,0	27,9
		2,1	3,10	3,7	33,0	27,9
		2,8	3,18	3,7	30,5	27,9
		3,4	3,22	3,8	30,5	27,9
240°	12-TT	1,4	3,41	3,5	30,5	25,4
		2,1	3,75	3,7	27,9	25,4
		2,8	3,94	3,7	27,9	25,4
		3,4	3,97	3,8	27,9	25,4
270°	12-TQ	1,4	3,97	3,5	30,5	25,4
		2,1	4,35	3,7	30,5	25,4
		2,8	4,50	3,7	30,5	25,4
		3,4	4,62	3,7	30,5	25,4
360°	12-F	1,4	5,11	3,5	27,9	25,4
		2,1	5,60	3,7	27,9	25,4
		2,8	6,02	3,8	27,9	25,4
		3,4	6,06	3,8	27,9	25,4

model # (0-XX-XX)	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲
15-60	1,4	1,32	4,3	30,5	25,4
	2,1	1,48	4,6	30,5	25,4
	2,8	1,51	4,6	30,5	25,4
	3,4	1,59	4,7	30,5	25,4
15-Q	1,4	2,01	4,3	30,5	25,4
	2,1	2,20	4,6	27,9	25,4
	2,8	2,27	4,6	30,5	25,4
	3,4	2,31	4,7	30,5	25,4
15-T	1,4	2,73	4,4	30,5	25,4
	2,1	2,91	4,6	27,9	25,4
	2,8	3,07	4,7	30,5	25,4
	3,4	3,10	4,7	30,5	25,4
15-150	1,4	3,48	4,5	30,5	25,4
	2,1	3,63	4,6	30,5	25,4
	2,8	3,79	4,6	30,5	25,4
	3,4	4,16	4,7	33,0	27,9
15-H	1,4	4,16	4,4	30,5	25,4
	2,1	4,39	4,6	27,9	25,4
	2,8	4,73	4,7	30,5	25,4
	3,4	4,85	4,7	30,5	25,4
15-210	1,4	4,35	4,4	30,5	27,9
	2,1	4,54	4,6	30,5	25,4
	2,8	4,92	4,7	30,5	25,4
	3,4	5,30	4,8	33,0	27,9
15-TT	1,4	5,49	4,4	30,5	25,4
	2,1	5,83	4,6	27,9	25,4
	2,8	5,98	4,6	27,9	25,4
	3,4	6,09	4,7	27,9	25,4
15-TQ	1,4	6,51	4,4	30,5	25,4
	2,1	6,74	4,6	27,9	25,4
	2,8	6,89	4,6	30,5	25,4
	3,4	7,19	4,7	30,5	25,4
15-F	1,4	8,33	4,4	30,5	25,4
	2,1	8,74	4,6	27,9	25,4
	2,8	8,90	4,6	27,9	25,4
	3,4	9,08	4,7	27,9	25,4

Arc	Press. (Bar)	Flow Rate (l/min)	Radius (m)	Precip. Rate (mm/h) ■	Precip. Rate (mm/h) ▲
4X30 SST	1,4	2,35	1.2x8.5	27,9	25,4
	2,1	2,50	1.2x9.1	30,5	27,9
	2,8	2,54	1.2x9.1	30,5	27,9
	3,4	2,57	1.2x9.1	33,0	27,9
4X15 LCS	1,4	1,21	1.2x4.5	30,5	25,4
	2,1	1,25	1.2x4.5	30,5	27,9
	2,8	1,29	1.2x4.5	30,5	27,9
	3,4	1,29	1.2x4.5	33,0	27,9
4X15 RCS	1,4	1,21	1.2x4.5	30,5	25,4
	2,1	1,25	1.2x4.5	30,5	27,9
	2,8	1,29	1.2x4.5	33,0	27,9
	3,4	1,29	1.2x4.5	33,0	27,9
4X18 SST	1,4	1,36	1.2x5.5	27,9	25,4
	2,1	1,40	1.2x5.5	27,9	25,4
	2,8	1,44	1.2x5.5	30,5	25,4
	3,4	1,44	1.2x5.5	30,5	25,4
4X9 LCS	1,4	0,68	1.2x2.7	30,5	25,4
	2,1	0,72	1.2x2.7	30,5	25,4
	2,8	0,76	1.2x2.7	30,5	27,9
	3,4	0,76	1.2x2.7	27,9	27,9
4X9 RCS	1,4	0,68	1.2x2.7	30,5	25,4
	2,1	0,72	1.2x2.7	30,5	25,4
	2,8	0,76	1.2x2.7	30,5	27,9
	3,4	0,76	1.2x2.7	30,5	27,9


Making use of the same patented gear drive technology found in Toro's world-leading Golf rotors, Toro® Precision™ Series Rotating Nozzles are powered by a planetary drive system that delivers a pattern of multiple wind resistant, multi-trajectory streams. The full circle and adjustable arc models deliver a radius range of 4,3 to 7,9 m with exceptional uniformity and close-in watering characteristics at a precipitation rate of 14mm per hour.
WATER SMART
TORO

PRECISION™ SERIES ROTATING NOZZLES

FEATURES & BENEFITS

Consistent, Gear-Driven Performance

Precision™ Series Rotating Nozzles are uniquely powered by a patented planetary gear drive, variable stator and turbine. Unlike competing rotating nozzles, the Precision™ Series Rotating Nozzle's gear drive is not system pressure dependent and delivers consistent rotation speed and performance across a wide range of operating pressures. The entire drive system is protected by the factory-installed fine mesh filter screen.

Fewer Models

Two Toro-threaded models and two female-threaded models are all that are required to cover radius requirements of 4,3 to 7,9 meters and infinitely adjustable arcs between 45° and 270° or 360°. Fewer models allow for less inventory and more flexibility.

Matched Precipitation Rate

These nozzles deliver water more slowly and evenly than standard spray nozzles, which helps prevent runoff and water waste. Moreover, the 14mm per hour precipitation rate better positions users to meet watering window requirements than competing rotating nozzles.

EZ ARC™ Visual Arc Indicators

Toro Precision™ Series Rotating Nozzles are the only rotating nozzles available that allow the user to dial in the nozzle's arc setting before installation. Further, the nozzle features a right edge call-out on adjustable models that assists in quick and effective installations.

Additional Features

- Maximum trajectory height of 20° to help fight wind
- Threads onto nearly all manufacturers' spray heads and shrub adapters
- Pre-attached screen for easy installation
- Radius reduction up to 25% by turning set screw
- Color-coded to easily identify adjustable and full circle models

ADJUSTABLE

Female-threaded
PRN-A

Male-threaded
PRN-TA

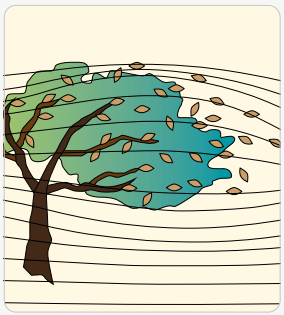
FULL CIRCLE

Female-threaded
PRN-F

Male-threaded
PRN-TF

Precision™ Series Rotating Nozzles supply matched precipitation with any arc and radius from 4,3 to 7,9 meters. Water is applied slowly and evenly to reduce runoff and wasted water.

PRODUCT HIGHLIGHT



Stronger, Low Trajectory Streams for Superior Performance in Wind

Precision™ Series Rotating Nozzle's streams have trajectories under 20°, making them more resistant to wind and drift than those of competing rotating nozzles. Lower trajectory streams provide great wind resistance, especially on 12" and 6" pop-ups resulting in significantly less overspray and misting.

Only Two Models Needed:

Fewer models allow for less inventory and more flexibility. Two Toro-threaded models and two female-threaded models to fit other professional brand spray heads are all that are required to cover radius requirements of 4,3 to 7,9 meters and infinitely adjustable arcs between 45° and 270° or 360°.

Shorter Watering Times (Up to 40%) with PRN

Precision™ Spray Nozzles average 14mm per hour precipitation rate (square spacing) allowing shorter watering times. With the PSN's exceptional uniformity, close-in watering characteristics and phenomenal edge control it is the ideal nozzle for any water efficient application challenge.

Step-Up™ Technology

The unique arc adjustment ring dial allows for pre-setting the arc by hand or with the PRNTOOL before the nozzle is installed or quickly after the nozzle is threaded onto the spray head and under pressure.

Visual Arc Adjustment

The unique arc adjustment ring dial allows for pre-setting the arc by hand or with the PRNTOOL before the nozzle is installed or quickly after the nozzle is threaded onto the spray head and under pressure.

SPECIFICATIONS

Operational

- Radius: 4,3-7,9 m (14'-26')
- Operating pressure range:1,4-5,2 Bar (20-75 psi)
- Recommended operating pressure: 2,8-3,5 Bar (40-50 psi)
- Flow Rate: 1,4-14 l/min (0,17-3,68 gpm)

Warranty

- Two years

PRECISION™ SERIES ROTATING NOZZLES PERFORMANCE DATA

Arc	Bar	L/min	Radius	Precip Rate (mm/hr) ■	Precip Rate (mm/hr) ▲	Rotation
45°	1,7	0,64	4,3	17,0	19,59	19,0
	2,1	0,87	4,6	20,0	23,09	17,0
	2,4	0,79	4,9	16,0	18,53	16,0
	3,1	1,06	5,5	16,9	19,52	15,0
	3,8	1,25	5,8	17,9	20,65	14,0
	4,5	1,48	6,7	15,8	18,20	14,0
	5,2	1,63	6,7	17,4	20,07	13,0
90°	1,7	1,63	4,9	16,4	18,97	14,0
	2,1	1,70	5,2	15,2	17,58	13,0
	2,4	2,04	5,8	14,6	16,89	13,0
	3,1	2,65	6,7	14,1	16,33	13,0
	3,8	2,99	7,0	14,6	16,87	13,0
	4,5	3,22	7,6	13,3	15,36	12,0
	5,2	3,48	7,6	14,4	16,62	12,0
120°	1,7	1,82	5,0	13,1	15,12	14,0
	2,1	2,23	5,2	15,0	17,29	12,0
	2,4	2,38	5,6	13,5	15,59	12,0
	3,1	3,48	6,7	13,9	16,10	12,0
	3,8	3,86	7,0	14,1	16,33	11,0
	4,5	4,20	7,3	14,1	16,32	11,0
	5,2	4,47	7,6	13,8	15,99	11,0
180°	1,7	3,14	4,6	18,0	20,83	12,0
	2,1	3,44	5,2	15,4	17,78	12,0
	2,4	4,01	5,8	14,4	16,58	12,0
	3,1	5,22	6,7	13,9	16,10	12,0
	3,8	5,83	7,0	14,2	16,44	11,0
	4,5	6,36	7,6	13,1	15,18	11,0
	5,2	6,85	7,9	13,1	15,12	10,0
240°	1,7	4,24	4,6	18,3	21,08	12,0
	2,1	4,58	4,9	17,3	20,02	12,0
	2,4	5,38	5,8	14,4	16,66	12,0
	3,1	6,47	6,4	14,2	16,42	12,0
	3,8	7,15	6,7	14,3	16,54	12,0
	4,5	7,61	7,0	13,9	16,09	11,0
	5,2	8,33	7,3	14,0	16,18	10,0
270°	1,7	4,09	4,3	17,9	20,69	11,0
	2,1	4,88	4,6	18,6	21,53	11,0
	2,4	5,19	5,5	13,7	15,88	11,0
	3,1	7,08	6,4	13,8	15,92	10,0
	3,8	8,06	6,7	14,3	16,52	10,0
	4,5	8,90	7,3	13,3	15,32	10,0
	5,2	9,84	7,6	13,5	15,62	10,0
360°	1,7	6,85	4,6	19,7	22,71	13,0
	2,1	8,18	5,5	16,3	18,82	13,0
	2,4	8,25	5,9	14,2	16,35	13,0
	3,1	11,13	6,8	14,3	16,54	13,0
	3,8	12,26	7,1	14,6	16,85	11,0
	4,5	13,17	7,4	14,4	16,64	11,0
	5,2	13,93	7,8	13,7	15,85	11,0

Nozzle data subject to change.

PRECISION™ SERIES ROTATING NOZZLE MODEL LIST

Toro (male)-threaded	Description
PRN-TA	Toro male threaded, 4,3-7,9 m (14-26') Adjustable from 45°-270°
PRN-TF	Toro male Threaded, 4,3-7,9 m (14-26') Full-Circle
Female-threaded	
PRN-A	Female threaded, 4,3-7,9 m (14-26') Adjustable from 45°-270°
PRN-F	Female threaded, 4,3-7,9 m (14-26') Full-Circle

Specifying Information—Precision™ Series Rotating Nozzles

PRN-XX		
Model	*Thread*	*Arc*
PRN	X	X
PRN—Precision™ Rotating Nozzle	T—Toro (male)-thread Blank—Female-thread	A—Adjustable F— Full circle

Example: A male threaded Precision Series Rotating nozzle with a 7,3m (24') radius and a 180° arc would be specified as: **PRN-TA**
A female threaded Precision Series Rotating nozzle with a 6,1m (20') radius and 360° arc would be specified as**: PRN-F**

Note: *For optimal performance in dirty water applications, a minimum of 120 mesh primary filtration is recommended.*


Maximum irrigation efficiency with optimal product versatility: All the water-saving capabilities of Toro's Precision™ Series Spray Nozzles with the inventory-reducing advantage of true variable radius. Adjustable from 2,4m (8') to 4,6m (15') to match multiple sizes of landscape with one nozzle.
TORO®

PRECISION™ SERIES H2FLO™ VARIABLE RADIUS NOZZLES

FEATURES & BENEFITS

Patented H2O Chip Technology

Variable Radius: 2,4m (8') to 4,6m (15')

Arc Options: Quarter, Half, and Full

Male or Female Thread, or pre-installed on 100mm (4") pop-up LPS Spray

PERFORMANCE DATA
VARIABLE RADIUS PRECISION™ SERIES SPRAY NOZZLES @ 2,0 BAR

QUARTER CIRCLE

Radius (m)	DU	CU	SC	L/min	Precip.Rate (mm/h) ■
2,4	55	73	1,4	0,9	29,7
3,0	58	75	1,3	1,2	26,9
3,7	54	73	1,3	1,5	25,1
4,6	56	75	1,2	2,2	27,2

HALF CIRCLE

Radius (m)	DU	CU	SC	L/min	Precip.Rate (mm/h) ■
2,4	55	73	1,4	2,0	36,1
3,0	58	75	1,3	2,4	29,2
3,7	54	73	1,3	2,9	26,2
4,6	56	75	1,2	4,4	26,4

FULL CIRCLE

Radius (m)	DU	CU	SC	L/min	Precip.Rate (mm/h) ■
2,4	55	73	1,4	3,5	33,5
3,0	58	75	1,3	4,5	27,7
3,7	54	73	1,3	6,7	28,7
4,6	56	75	1,2	8,1	24,6

Precision™ Series Sprinkler, 100mm(4") Pop-Up with Nozzle
53892, 53893, 53894
Variable Radius Nozzle Only (1 per Blister Pack)

Male (Toro) Threaded	Female Threaded
Red Cap	Green Cap
53926, 53927, 53928	53895, 53896, 53897

VARIABLE RADIUS PRECISION™ SERIES SPRAY NOZZLE MODEL LIST

Model	Description
100mm (4") Pop-up w/ pre-installed Variable Radius Precision™ Series Spray Nozzle – 2,4m (8') to 4,6m (15'), without PCD	
53892	100mm (4") LPS Spray w/ Variable Radius Precision™ Series Nozzle, Quarter Circle
53893	100mm (4") LPS Spray w/ Variable Radius Precision™ Series Nozzle, Half Circle
53894	100mm (4") LPS Spray w/ Variable Radius Precision™ Series Nozzle, Full Circle
Variable Radius Precision™ Series Spray Nozzle – 2,4m (8') to 4,6m (15'), Toro Thread, without PCD, (1 per Blister Pack)	
53926	Precision™ Series Spray Nozzle, Variable Radius, Toro-thread, Quarter Circle
53927	Precision™ Series Spray Nozzle, Variable Radius, Toro-thread, Half Circle
53928	Precision™ Series Spray Nozzle, Variable Radius, Toro-thread, Full Circle
Variable Radius Precision™ Series Spray Nozzle – 2,4m (8') to 4,6m (15'), Female Thread, without PCD, (1 per Blister Pack)	
53895	Precision™ Series Spray Nozzle, Variable Radius, Female-thread, Quarter Circle
53896	Precision™ Series Spray Nozzle, Variable Radius, Female-thread, Half Circle
53897	Precision™ Series Spray Nozzle, Variable Radius, Female-thread, Full Circle

MPR PLUS SPRAY NOZZLES

5' MPR Plus Nozzle

8' MPR Plus Nozzle

10' MPR Plus Nozzle

12' MPR Plus Nozzle

15' MPR Plus Nozzle

Special Patterns

Toro® MPR Plus nozzles make system design and installation easier than ever. Simply select the needed radius and arc–the nozzle does everything else.

Additional Features

- Customized screens for each nozzle
- Fine-mesh snap-in filter screens for lower flow nozzles
- Convenient nozzle packaging – nozzles and screens packed separately
- Adjustment screw allows up to 25% reduction in radius and complete shutoff

MPR PLUS SPRAY NOZZLES MODEL LIST

Model	Description	Model	Description
1,5M (5') MPR PLUS NOZZLE-RED		**2,4M (8') MPR PLUS NOZZLE-GREEN**	
5Q	90° Arc	8Q	90° Arc
5T	120° Arc	8T	120° Arc
5H	180° Arc	8H	180° Arc
5TT	240° Arc	8TT	240° Arc
5TQ	270° Arc	8TQ	270° Arc
5F	360° Arc	8F	360° Arc
3,0M (10') MPR PLUS NOZZLE-BLUE		**3,7M (12') MPR PLUS NOZZLE-BROWN**	
10Q	90° Arc	12Q	90° Arc
10T	120° Arc	12T	120° Arc
10H	180° Arc	12H	180° Arc
10TT	240° Arc	12TT	240° Arc
10TQ	270° Arc	12TQ	270° Arc
10F	360° Arc	12F	360° Arc
4,6M (15') MPR PLUS NOZZLE-BLACK		**SPECIAL PATTERNS-ORANGE**	
15Q	90° Arc	4SST	Side Strip 1,2-9,1m
15T	120° Arc	4EST	End Strip 1,2-4,3m
15H	180° Arc	4CST	Center Strip 1,2-6,1m
15TT	240° Arc	9SST	Side Strip 2,7-5,2m
15TQ	270° Arc	4SSST	Side Strip 1,2-5,2m
15F	360° Arc	2SST	Side Strip 0,6-1,8m

FEATURES & BENEFITS

Matched Precipitation Rates

Ensures all nozzles apply water at approximately the same rate.

Pre-installed Pressure Compensation Disc

Eliminates excessive misting, conserves water and provides precise flow rates.

SPECIFICATIONS

Operational

- Operating pressure range: 1,4-5,2 Bar
- Recommended pressure: 2,1 Bar
- Flow Rate: 0,2-17,3 L/min
- Nozzle trajectory:
  1,5m (5'): 5°; 2,4m (8'): 10°; 3,0m (10'): 17°;
  3,7m (12'): 24°; 4,6m (15'): 28°
  Corner and Side Strips: 17°

Warranty

- Two years

Specifying Information—MPR Plus

XX-XXX-PC	
Radius	*Arc*
XXX	XXX
5—5' 8—8' 10—10' 12—12' 15—15'	Q—90° T—120° H—180° TT—240° Q—270° F—360° EST—End Strip CST—Center Strip SST—Side Strip
Example: A 570 MPR Plus Nozzle with a spray of 3,0m(10'), 180° arc and pressure compensation, would be specified as: **10-H-PC**	

Note: *To specify a MPR Plus nozzle with a 570Z sprinkler body, attach the body specification before the above nozzle specification.Do not use PCDs with 570Z PR & 570Z PRX models*

PERFORMANCE DATA-MPR PLUS SPRAY NOZZLES

5' SERIES WITH 5° TRAJECTORY (RED)

Arc	Desc.	Pressure bar	Flow Rate l/min	Radius m	Prec. Rate mm/h ▲	Prec. Rate mm/h ■
90°	5-Q	1,4	0,19	1,2	35,6	30,7
		2,1	0,34	1,5	40,9	35,6
		2,8	0,45	1,8	45,2	39,1
		3,4	0,57	1,8	47,2	41,1
	5-Q-PC	2,1-2,8	0,34	1,5	40,9	35,6
		2,8-5,2	0,38	1,5	45,5	39,4
120°	5-T	1,4	0,26	1,2	37,3	32,3
		2,1	0,45	1,5	40,9	35,6
		2,8	0,61	1,8	45,2	39,1
		3,4	0,76	1,8	47,2	41,1
	5-T-PC	2,1-2,8	0,45	1,5	40,9	35,6
		2,8-5,2	0,49	1,5	45,5	39,4
180°	5-H	1,4	0,38	1,2	35,6	30,7
		2,1	0,72	1,5	43,2	37,3
		2,8	0,87	1,8	43,2	37,3
		3,4	1,02	1,8	42,7	36,8
	5-H-PC	2,1-2,8	0,68	1,5	40,9	35,6
		2,8-5,2	0,76	1,5	45,5	39,4
240°	5-TT	1,4	0,57	1,2	39,9	34,5
		2,1	0,95	1,5	42,7	36,8
		2,8	1,14	1,8	42,2	36,6
		3,4	1,32	1,8	41,4	35,8
	5-TT-PC	2,1-2,8	0,87	1,5	39,1	34,0
		2,8-5,2	1,02	1,5	46,0	39,9
270°	5-TQ	1,4	0,76	1,2	47,2	40,9
		2,1	1,10	1,5	43,9	38,1
		2,8	1,29	1,8	42,7	36,8
		3,4	1,51	1,8	42,2	36,6
	5-TQ-PC	2,1-2,8	0,98	1,5	39,4	34,0
		2,8-5,2	1,10	1,5	43,9	38,1
360°	5-F	1,4	0,95	1,2	44,5	38,4
		2,1	1,44	1,5	43,2	37,3
		2,8	1,70	1,8	42,2	36,6
		3,4	2,01	1,8	41,9	36,3
	5-F-PC	2,1-2,8	1,32	1,5	39,9	34,5
		2,8-5,2	1,48	1,5	44,5	38,4

8' SERIES WITH 10° TRAJECTORY (GREEN)

Arc	Desc.	Pressure bar	Flow Rate l/min	Radius m	Prec. Rate mm/h ▲	Prec. Rate mm/h ■
90°	8-Q	1,4	0,64	2,1	39,4	34,0
		2,1	0,91	2,4	42,7	36,8
		2,8	0,98	2,7	40,9	35,3
		3,4	1,10	2,7	40,6	35,3
	8-Q-PC	2,1-2,8	0,83	2,4	39,1	33,8
		2,8-5,2	0,95	2,4	44,5	38,4
120°	8-T	1,4	0,87	2,1	40,1	34,5
		2,1	1,14	2,4	39,9	34,5
		2,8	1,36	2,7	42,4	36,8
		3,4	1,51	2,7	42,2	36,6
	8-T-PC	2,1-2,8	1,10	2,4	38,6	33,5
		2,8-5,2	1,32	2,4	46,7	40,4
180°	8-H	1,4	1,40	2,4	37,3	32,3
		2,1	1,89	2,4	44,5	38,4
		2,8	2,20	2,7	45,7	39,6
		3,4	2,46	2,7	45,7	39,6
	8-H-PC	2,1-2,8	1,67	2,4	39,1	33,8
		2,8-5,2	1,89	2,4	44,5	38,4
240°	8-TT	1,4	2,12	2,1	48,8	42,2
		2,1	2,65	2,4	46,7	40,4
		2,8	3,03	2,7	47,2	40,9
		3,4	3,33	2,7	46,2	40,1
	8-TT-PC	2,1-2,8	2,23	2,4	39,4	34,0
		2,8-5,2	2,65	2,4	46,7	40,4
270°	8-TQ	1,4	2,38	2,1	48,8	42,2
		2,1	2,88	2,4	45,0	38,9
		2,8	3,26	2,7	45,2	39,1
		3,4	3,52	2,7	43,4	37,6
	8-TQ-PC	2,1-2,8	2,42	2,4	37,8	32,8
		2,8-5,2	2,65	2,4	41,4	35,8
360°	8-F	1,4	2,80	2,1	42,9	37,1
		2,1	3,79	2,4	44,5	38,4
		2,8	4,39	2,7	45,7	39,6
		3,4	4,92	2,7	45,7	39,6
	8-F-PC	2,1-2,8	3,22	2,4	37,8	32,8
		2,8-5,2	3,79	2,4	44,5	38,4

10' SERIES WITH 17° TRAJECTORY (BLUE)

Arc	Desc.	Pressure bar	Flow Rate l/min	Radius m	Prec. Rate mm/h ▲	Prec. Rate mm/h ■
90°	10-Q	1,4	1,14	2,7	42,2	36,6
		2,1	1,51	3,0	45,5	39,4
		2,8	1,89	3,4	47,0	40,6
		3,4	2,27	3,7	47,2	41,1
	10-Q-PC	2,1-2,8	1,25	3,0	37,6	32,5
		2,8-5,2	1,40	3,0	42,2	36,3
120°	10-T	1,4	1,59	2,7	44,2	38,4
		2,1	1,97	3,0	44,5	38,4
		2,8	2,46	3,4	45,7	39,6
		3,4	2,84	3,7	44,5	38,4
	10-T-PC	2,1-2,8	1,67	3,0	37,6	32,5
		2,8-5,2	1,89	3,0	42,7	36,8
180°	10-H	1,4	2,27	2,7	42,2	36,6
		2,1	2,69	3,0	40,4	35,1
		2,8	3,22	3,4	39,9	34,5
		3,4	3,75	3,7	41,9	36,3
	10-H-PC	2,1-2,8	2,50	3,0	37,6	32,5
		2,8-5,2	2,84	3,0	42,7	36,8
240°	10-TT	1,4	2,69	2,7	37,3	32,3
		2,1	3,67	3,0	41,4	35,8
		2,8	4,16	3,4	42,4	36,8
		3,4	4,50	3,4	41,9	36,3
	10-TT-PC	2,1-2,8	3,37	3,0	37,8	32,8
		2,8-5,2	3,79	3,0	42,7	36,8
270°	10-TQ	1,4	3,10	2,7	38,4	33,3
		2,1	3,94	3,0	39,4	34,0
		2,8	4,54	3,4	41,1	35,8
		3,4	5,11	3,4	42,2	36,6
	10-TQ-PC	2,1-2,8	3,75	3,0	37,6	32,5
		2,8-5,2	4,13	3,0	41,4	35,8
360°	10-F	1,4	4,20	2,7	43,7	37,8
		2,1	5,64	3,0	42,4	36,6
		2,8	6,09	3,4	41,4	36,1
		3,4	7,00	3,4	43,4	37,6
	10-F-PC	2,1-2,8	5,03	3,0	37,8	32,8
		2,8-5,2	5,72	3,0	42,9	37,1

12' SERIES WITH 24° TRAJECTORY (BROWN)

Arc	Desc.	Pressure bar	Flow Rate l/ min	Radius m	Prec. Rate mm/h ▲	Prec. Rate mm/h ■
90°	12-Q	1,4	1,51	3,4	37,6	32,5
		2,1	1,89	3,7	39,4	34,3
		2,8	2,27	4,0	41,7	36,1
		3,4	2,38	4,0	42,4	36,6
	12-Q-PC	2,1-2,8	1,82	3,7	37,8	32,8
		2,8-5,2	2,01	3,7	41,9	36,3
120°	12-T	1,4	2,16	3,4	40,1	34,8
		2,1	2,73	3,7	42,7	36,8
		2,8	3,29	4,0	47,5	41,1
		3,4	3,67	4,0	49,0	42,4
	12-T-PC	2,1-2,8	2,42	3,7	37,8	32,8
		2,8-5,2	2,65	3,7	41,4	35,8
180°	12-H	1,4	3,60	3,4	44,7	38,6
		2,1	4,13	3,7	42,9	37,3
		2,8	4,92	4,0	43,7	37,8
		3,4	5,87	4,3	45,0	38,9
	12-H-PC	2,1-2,8	3,63	3,7	37,8	32,8
		2,8-5,2	3,97	3,7	41,4	35,8
240°	12-TT	1,4	4,24	3,4	39,4	34,3
		2,1	5,49	3,7	42,9	37,1
		2,8	6,17	4,0	44,5	38,6
		3,4	6,81	4,0	45,5	39,4
	12-TT-PC	2,1-2,8	4,85	3,7	37,8	32,8
		2,8-5,2	5,30	3,7	41,4	35,8
270°	12-TQ	1,4	3,97	3,4	36,1	31,2
		2,1	5,87	3,7	40,9	35,3
		2,8	6,25	4,0	40,1	34,5
		3,4	6,81	4,0	40,4	35,1
	12-TQ-PC	2,1-2,8	5,45	3,7	37,8	32,8
		2,8-5,2	6,06	3,7	42,2	36,6
360°	12-F	1,4	6,32	3,4	39,1	34,0
		2,1	8,29	3,7	43,2	37,3
		2,8	8,90	4,0	42,7	37,1
		3,4	10,22	4,0	45,5	39,4
	12-F-PC	2,1-2,8	7,27	3,7	37,8	32,8
		2,8-5,2	7,95	3,7	41,4	35,8

15' SERIES WITH 28° TRAJECTORY (BLACK)

Arc	Desc.	Pressure bar	Flow Rate l/min	Radius m	Prec. Rate ▲	Prec. Rate ■
90°	15-Q	1,4	2,57	4,3	39,4	34,0
		2,1	3,22	4,6	42,9	37,1
		2,8	3,94	4,9	46,2	39,9
		3,4	4,66	4,9	54,6	47,2
	15-Q-PC	2,1-2,8	2,84	4,6	37,8	32,8
		2,8-5,2	3,07	4,6	40,9	35,6
120°	15-T	1,4	3,60	4,3	44,5	38,6
		2,1	4,16	4,6	41,7	36,1
		2,8	4,92	4,9	46,2	39,9
		3,4	5,49	4,9	51,6	44,5
	15-T-PC	2,1-2,8	3,79	4,6	37,8	32,8
		2,8-5,2	4,16	4,6	41,7	36,1
180°	15-H	1,4	5,19	4,0	45,5	39,4
		2,1	6,25	4,6	42,2	36,6
		2,8	7,65	4,9	45,0	38,9
		3,4	8,10	4,9	47,5	41,1
	15-H-PC	2,1-2,8	5,68	4,6	37,8	32,8
		2,8-5,2	6,25	4,6	41,7	36,1
240°	15-TT	1,4	6,74	4,3	40,4	35,1
		2,1	8,33	4,6	41,7	36,1
		2,8	10,07	4,9	44,2	38,4
		3,4	10,75	4,9	47,2	40,9
	15-TT-PC	2,1-2,8	7,57	4,6	37,8	32,8
		2,8-5,2	8,33	4,6	41,7	36,1
270°	15-TQ	1,4	7,95	4,0	47,0	40,9
		2,1	9,84	4,6	43,7	37,8
		2,8	11,36	4,9	47,2	40,9
		3,4	12,87	4,9	50,3	43,7
	15-TQ-PC	2,1-2,8	8,71	4,6	38,9	33,5
		2,8-5,2	9,46	4,6	42,2	36,6
360°	15-F	1,4	10,79	4,0	48,0	41,4
		2,1	13,63	4,6	45,5	39,4
		2,8	15,90	4,9	46,7	40,4
		3,4	17,34	4,9	50,8	43,9
	15-F-PC	2,1-2,8	11,36	4,6	37,8	32,8
		2,8-5,2	12,49	4,6	41,7	36,1

SPECIAL PATTERNS (ORANGE)

Pattern	Desc.	Pressure bar	Flow Rate l/ min	Special Patterns Width		Special Patterns Length	Prec. Rate mm/h
	4-EST	20	1,44	0,9	X	3,7	51,6
		30	1,70	1,2	X	4,6	36,6
		40	2,01	1,5	X	5,5	28,7
		50	2,27	1,8	X	6,1	24,4
	4-EST-PC	30-40	1,63	1,2	X	4,6	35,1
		40-75	1,89	1,2	X	4,6	40,9
	4-CST	20	2,84	0,9	X	7,3	51,1
		30	3,41	1,2	X	9,1	36,6
		40	3,94	1,2	X	9,1	42,4
		50	4,39	1,2	X	9,4	45,7
	4-CST-PC	30-40	3,26	1,2	X	9,1	35,1
		40-75	3,79	1,2	X	9,1	40,9
	9-SST	20	3,79	2,7	X	5,5	30,2
		30	4,54	2,7	X	5,5	36,3
		40	5,22	2,7	X	6,1	37,6
		50	5,87	3,0	X	6,7	34,5
	9-SST-PC	30-40	4,16	2,7	X	5,5	33,3
		40-75	4,54	2,7	X	5,5	36,3
	4-SST	20	2,46	1,2	X	7,3	33,0
		30	3,41	1,2	X	9,1	36,6
		40	3,94	1,2	X	9,8	39,6
		50	4,39	1,5	X	10,1	34,3
	4-SST-PC	30-40	3,33	1,2	X	9,1	35,8
		40-75	3,79	1,2	X	9,1	40,9
	2-SST	20	0,30	0,6	X	1,5	39,1
		30	0,34	0,6	X	1,8	36,6
		40	0,38	0,6	X	2,1	35,1
		50	0,45	0,9	X	2,1	27,9
	2-SST-PC	30-40	0,34	0,6	X	1,8	36,6
		40-75	0,38	0,6	x	1,8	40,9
	4S-SST	20	1,74	1,2	x	5,2	33,0
		30	2,08	1,2	x	5,5	37,3
		40	2,38	1,2	x	5,8	40,6
		50	2,69	1,5	x	5,8	36,6
	4S-SST-PC	30-40	1,89	1,2	x	5,5	34,0
		40-75	2,23	1,2	x	5,5	40,1

TVAN VARIABLE ARC NOZZLES

Quick, easy and infinitely adjustable! Toro® Variable Arc Nozzles (TVAN) are designed to deliver excellent irrigation efficiency with maximum versatility.

Additional Features

- ✔ Stainless steel adjustment screw allows up to 25% radius reduction
- ✔ Nozzle arc adjustment opens from a fixed left stop position indicated by an arrow on the top

FEATURES & BENEFITS

Matched Precipitation Rates

Ensures all nozzles with a common radii apply water at approximately the same rate.

Unique Grip and Turn Adjustment

Requires no tools and makes arc setting fast and simple. Adjust from the top of the nozzle – wet or dry.

Infinitely Adjustable from 0° - 360°

The TVAN provides a variety of arc settings to precisely match any terrain and reduces inventory by meeting the needs of any size or shape landscape.

Five Color-coded Nozzles

Allows for quick and easy identification even when retracted.

8' Variable Arc Nozzle

10' Variable Arc Nozzle

12' Variable Arc Nozzle

15' Variable Arc Nozzle

17' Variable Arc Nozzle

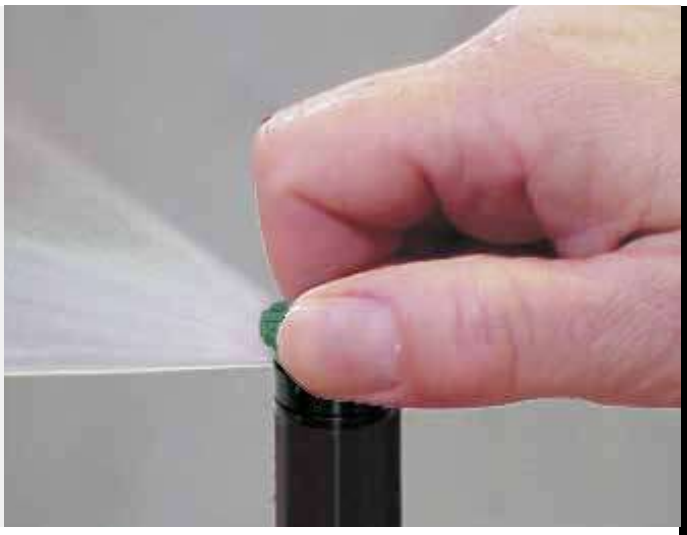
SPECIFICATIONS

Operational

- Radius: 2,4m-5,2m
- Operating pressure range: 1,4-3,4 Bar
- Recommended operating pressure: 2,1 Bar

Warranty

- Two years



Easy Grip Top
The easy grip top makes arc adjustment from 0°-360° a snap

TVAN VARIABLE ARC NOZZLES MODEL LIST

Model	Description
TVAN8	2,4m (8') Variable Arc Pattern
TVAN10	3,0m (10') Variable Arc Pattern
TVAN12	3,7m (12') Variable Arc Pattern
TVAN15	4,6m (15') Variable Arc Pattern
TVAN17	5,2m (17') Variable Arc Pattern

Performance Data TVAN Variable Arc Nozzles — Metric

		8 Series-Green				10 Series-Blue				12 Series-Brown				15 Series-Black				17 Series-Gray			
Pattern	Pressure Bar	Flow Rate l/min	Radius m	Prec. Rate mm/h ▲	Prec. Rate mm/h ■	Flow Rate l/min	Radius m	Prec. Rate mm/h ▲	Prec. Rate mm/h ■	Flow Rate l/min	Radius m	Prec. Rate mm/h ▲	Prec. Rate mm/h ■	Flow Rate l/min	Radius m	Prec. Rate mm/h ▲	Prec. Rate mm/h ■	Flow Rate l/min	Radius m	Prec. Rate mm/h ▲	Prec. Rate mm/h ■
90°	1,4	2,2	2,1	133,6	115,8	2,2	2,7	82,3	71,4	2,9	3,0	85,9	74,4	4,0	4,6	53,1	46,0	4,7	4,9	55,1	47,8
	2,1	2,7	2,4	125,2	108,5	2,7	3,0	81,3	70,4	3,5	3,7	72,9	63,2	4,9	4,6	64,8	56,1	5,5	5,2	57,2	49,5
	2,8	3,1	2,7	114,3	99,1	3,2	3,0	94,7	82,3	4,1	3,7	83,8	72,6	5,6	4,9	65,8	56,9	6,4	5,5	58,7	50,8
	3,4	3,5	2,7	128,3	111,3	3,6	3,0	106,2	91,9	4,6	4,0	80,8	70,1	6,3	4,9	73,2	63,5	7,1	5,5	65,3	56,4
180°	1,4	3,1	2,1	93,2	80,8	3,6	2,7	65,5	56,9	5,1	3,0	76,2	66,0	6,5	4,3	49,3	42,7	7,4	4,6	49,0	42,4
	2,1	3,7	2,4	87,4	75,7	4,4	3,0	65,0	56,1	6,2	3,7	64,8	56,1	7,9	4,6	52,1	45,2	9,0	5,2	46,5	40,4
	2,8	4,4	2,4	101,3	87,9	5,0	3,0	75,2	65,0	7,2	3,7	74,9	64,8	9,1	4,6	60,2	52,1	10,4	5,2	53,6	46,5
	3,4	4,8	2,7	89,2	77,2	5,6	3,0	84,1	72,9	8,1	4,0	71,1	61,7	10,1	4,6	67,3	58,2	11,6	5,5	53,3	46,2
270°	1,4	4,1	2,1	83,1	71,9	5,2	2,7	63,8	55,1	7,2	3,4	59,2	51,3	9,1	4,3	46,2	40,1	10,2	4,3	51,6	44,7
	2,1	5,0	2,4	78,2	67,8	6,3	3,0	62,7	54,4	8,8	3,7	60,7	52,6	11,1	4,6	49,3	42,7	12,4	5,2	42,7	37,1
	2,8	5,8	2,4	89,9	78,0	7,3	3,0	72,4	62,7	10,1	3,7	70,1	60,7	12,8	4,6	56,6	49,0	14,2	5,2	49,0	42,4
	3,4	6,4	2,7	79,0	68,3	8,1	3,0	81,0	70,1	11,3	3,7	78,2	67,8	14,3	4,9	55,4	48,0	15,9	5,5	48,8	42,2
360°	1,4	4,7	2,1	72,1	62,5	6,5	2,7	60,2	52,3	8,6	3,0	64,0	55,6	10,2	4,0	45,0	38,9	11,5	5,2	29,7	25,9
	2,1	5,8	2,4	67,1	58,2	8,0	3,0	59,7	51,6	10,5	3,7	54,4	47,0	12,3	4,6	40,9	35,6	14,1	5,2	36,3	31,5
	2,8	6,6	2,7	61,0	52,8	9,2	3,0	68,3	59,2	11,8	3,7	61,2	53,1	14,3	4,6	47,5	41,1	16,1	5,5	37,1	32,3
	3,4	7,4	2,7	68,3	59,2	10,2	3,0	75,9	65,8	13,1	3,7	68,1	58,9	16,4	4,9	47,8	41,4	17,8	5,5	41,1	35,6

▲ *Precipitation rates are for triangular spacing, shown in millimeters per hour, calculated at 50% of diameter.*
■ *Precipitation rates are for square spacing, shown in millimeters per hour, calculated at 50% of diameter.*
All performance specifications are based on the stated working pressure available at the base of the sprinkler.
Shaded data indicates optimal operating pressure.
Data based on 360°.

Specifying Information—TVAN

TVANXX	
Model	*Radius*
TVAN	**XX**
TVAN—Toro Variable Arc Nozzle	8— 2,4m (8') Variable Arc Pattern 10— 3,0m (10') Variable Arc Pattern 12— 3,7m (12') Variable Arc Pattern 15— 4,6m (15') Variable Arc Pattern 17— 5,2m (17') Variable Arc Pattern

Example: A TVAN8 nozzle, would be specified as: **TVAN8**

PRESSURE-COMPENSATING FLOOD BUBBLERS

SPECIFICATIONS

Operational

- Recommended operating pressure range: 1,4-5,2 Bar
- Maximum pressure: 5,2 Bar
- Flow Rate: Adjustable: 0-7,6 L/min
- Fixed Flow: 0,9; 1,9; 3,8 L/min
- Adjustment screw allows up to 25% reduction in radius
- Compatible with shrub adapter, 570Z Series sprinklers, brisers and riser extenders

Warranty

- Two years

PERFORMANCE DATA FLOOD BUBBLER

Pattern	Model No.	2,5 Bar L/min	3 Bar L/min	3,5 Bar L/min	4 Bar L/min
Flood ●	89-1727	0,95	0,95	0,95	0,95
	89-1729	1,63	1,77	1,89	1,89
	89-1731	3,53	3,66	3,79	3,79
	89-1733	7,05	7,32	7,57	7,57

PRESSURE-COMPENSATING FLOOD BUBBLERS MODEL LIST

Model	Description
89-1727	0,9 L/min (0.25 GPM)
89-1729	1,9 L/min (0.50 GPM)
89-1731	3,8 L/min (1.00 GPM)
89-1733	Adjustable GPM (L/min)

500 SERIES BUBBLERS

SPECIFICATIONS

Operational

- Operating pressure range:
  - Flood: 1,0-5,2 Bar
  - Stream: 0,7-5,2 Bar
- Maximum pressure: 5,2 Bar
- Flow Rate:
  - Flood: 6,4-10,2 L/min
  - Stream: 4,1-14,0 L/min
- Inlet: ½" female thread
- Attaches directly to risers
- Radius adjusts up to 50%

Warranty

- Two years

ADJUSTABLE FLOOD BUBBLER NOZZLE PERFORMANCE DATA

Pattern	Model No.	Bar	L/min
Universal Flood ●	514-20	1,00	6,32
		1,25	7,14
		1,50	7,84
		1,75	8,38
		2,00	8,93
		2,25	9,28
		2,50	9,65
		2,75	10,20

PERFORMANCE DATA ADJUSTABLE STREAM BUBBLER

Model Number	Stream Patterns		1 Bar		1,5 Bar		2 Bar		2,5 Bar		3 Bar	
			Flow (L/min)	Radius (m)	Flow (L/min)	Radius (m)	Flow (L/min)	Radius (m)	Flow (L/min)	Radius (m)	Flow (L/min)	Radius (m)
511-30	2/60°		4,84	3,6	5,99	4,4	6,95	4,8	7,62	5,1	8,25	5,3
512-30	4/60°		6,72	2,5	8,30	3,1	9,59	3,3	10,71	3,7	11,81	4,2
514-30	6/60°		8,38	2,1	10,27	2,5	11,89	3,0	13,3	3,2	14,67	3,5
516-30	2/180°		4,84	3,6	5,99	4,4	6,95	4,8	7,62	5,1	8,25	5,3

Data based on 360°.

500 SERIES BUBBLERS MODEL LIST

Model	Description
511-30	90° Arc, Stream Bubbler
512-30	180° Arc, Stream Bubbler
514-30	360° Arc, Stream Bubbler
516-30	180° Arc, 2-stream Bubbler
514-20	Universal Flood Bubbler

STREAM SPRAY NOZZLES

SPECIFICATIONS

Operational

- Operating pressure range: 1,4-5,2 Bar (20-75 psi)
- Flow Rate: 2,3-10,2 L/min (0.60 – 2.70 GPM)
- Radius adjusts up to 50%
- 10° or 35° Angle
- Non-Rotating

Warranty

- Two years

PERFORMANCE DATA 10° STREAM SPRAY

Pat-tern	Desc.	Bar	L/min	Radius	Prec. Rate mm/h ▲	Prec. Rate mm/h ■
90°	10-SSQ	1,5	2,40	4,4	3,45	3,00
		2,0	2,95	4,8	3,53	3,05
		2,5	3,31	5,1	3,61	3,12
		3,5	3,93	5,5	3,58	3,10
	10-SSQ-PC	2,8-3,5	2,65	4,0	4,67	4,06
		4,1-4,8	2,65	4,6	3,51	3,05
180°	10-SSH	1,5	3,92	4,4	2,87	2,49
		2,0	4,47	4,8	2,64	2,29
		2,5	4,97	5,1	2,69	2,34
		3,5	5,92	5,5	2,69	2,34
	10-SSH-PC	2,8-3,5	5,30	4,0	4,67	4,06
		4,1-4,8	5,30	4,6	3,51	3,05
360°	10-SSF	1,5	7,01	4,4	2,59	2,24
		2,0	7,84	4,8	2,31	2,01
		2,5	8,71	5,1	2,36	2,06
		3,5	10,30	5,5	2,36	2,03
	10-SSF-PC	2,8-3,5	6,81	4,0	3,00	2,62
		4,1-4,8	7,57	4,6	2,51	2,18

PERFORMANCE DATA 35° STREAM SPRAY

Pattern	Desc.	Bar	L/min	Radius	Prec. Rate mm/h ▲	Prec. Rate mm/h ■
90°	35-SSQ	1,5	2,40	5,6	2,08	1,80
		2,0	2,95	6,0	2,26	1,96
		2,5	3,31	6,3	2,36	2,03
		3,5	3,93	6,7	2,41	2,08
	35-SSQ-PC	2,8-3,5	2,65	5,2	2,74	2,36
		4,1-4,8	2,65	5,5	2,44	2,11
180°	35-SSH	1,5	3,92	5,6	1,75	1,50
		2,0	4,47	6,0	1,70	1,47
		2,5	4,97	6,3	1,78	1,52
		3,5	5,92	6,7	1,80	1,57
	35-SSH-PC	2,8-3,5	5,30	5,2	2,74	2,36
		4,1-4,8	5,30	5,5	2,44	2,11
360°	35-SSF	1,5	7,01	5,6	1,57	1,37
		2,0	7,84	6,0	1,47	1,30
		2,5	8,71	6,3	1,55	1,35
		3,5	10,30	6,7	1,57	1,37
	35-SSF-PC	2,8-3,5	6,81	5,2	1,75	1,52
		4,1-4,8	7,57	5,5	1,75	1,50

STREAM SPRAY NOZZLES MODEL LIST

Model	Description	Model	Description
NON-PRESSURE COMPENSATING		**PRESSURE COMPENSATING**	
89-1805	90° Arc	10-SSQ-PC	90° Arc
89-1804	180° Arc	10-SSH-PC	180° Arc
89-1803	360° Arc	10-SSF-PC	360° Arc
89-1802	90° Arc	35-SSQ-PC	90° Arc
89-1801	180° Arc	35-SSH-PC	180° Arc
89-1800	360° Arc	35-SSF-PC	360° Arc

STREAM BUBBLER NOZZLES

SPECIFICATIONS

Operational

- Operating pressure range: 0,7-5,2 Bar
- Flow Rate: 1,9-9,0 L/min
- Fits all Toro spray bodies, Shrub adapters, risers and Riser extenders

Warranty

- Two years

PERFORMANCE DATA STREAM BUBBLER

Description		Stream Patterns	1 Bar Flow (L/min)	1 Bar Rad (m)	1,5 Bar Flow (L/min)	1,5 Bar Rad (m)	2 Bar Flow (L/min)	2 Bar Rad (m)	2,5 Bar Flow (L/min)	2,5 Bar Rad (m)	3 Bar Flow (L/min)	3 Bar Rad (m)	3,5 Bar Flow (L/min)	3,5 Bar Rad (m)	4 Bar Flow (L/min)	4 Bar Rad (m)
SB-90		2/60°	2,2	2,7	2,8	3,5	3,2	3,9	3,6	4,3	3,9	4,7	4,3	4,9	4,6	5,4
SB-90-PC2		2/60°							0,8	0,5	0,9	0,5	0,9	0,5	0,9	0,5
SB-180		4/60°	3,8	2,1	4,6	2,9	5,3	3,6	6,0	4,0	6,6	4,5	7,1	4,9	7,5	5,1
SB-180-PC2		4/60°							1,8	0,8	1,9	0,8	1,9	0,8	1,9	0,8
SB-360		6/60°	5,2	1,3	6,4	1,9	7,4	2,4	8,3	2,6	9,0	2,8	9,7	3,1	11,8	3,7
SB-360-PC2		6/60°							2,8	0,5	2,9	0,5	2,9	0,5	2,9	0,5
SB-2-180		2/180°	2,2	2,7	2,8	3,5	3,2	3,9	3,6	4,3	3,9	4,7	4,3	4,9	4,6	5,4
SB-2-180-PC2		2/180°							0,8	0,5	0,9	0,5	0,9	0,5	0,9	0,5
SB-4-180		2/60°x2/60°	3,8	2,1	4,6	2,9	5,3	3,6	6,0	4,0	6.6	4,5	7,1	4,9	7,5	5,1
SB-4-180-PC2		2/60°x2/60°							1,8	0,8	1,9	0,8	1,9	0,8	1,9	0,8

Data based on 360°.

STREAM BUBBLER NOZZLES MODEL LIST

Model	Description
PRESSURE COMPENSATING	
89-7865 (SB-90-PC2)	90° Arc, 0,6m (2') Radius
89-7875 (SB-180-PC2)	180° Arc, 0,6m (2') Radius
89-7877 (SB-360-PC2)	360° Arc, 0,6m (2') Radius
89-7871 (SB-2-180-PC2)	180° Arc, 2 Stream, 0,6m (2') Radius
89-7873 (SB-4-180-PC2)	180° Arc, 4 Stream, 0,6m (2') Radius

PRECISION™ CHECK VALVE

Low head drainage can be seen in an elevation change of fewer than six inches. The resulting runoff and water waste can lead to landscape erosion, unsafe conditions on hardscapes and sidewalks, and pooling around spray heads. The Toro Precision™ Check Valve saves water and eliminates runoff by immediately sealing the spray head at its connection point at the end of the irrigation cycle, thereby preventing the draining of lateral lines through the lowest-lying heads.

FEATURES & BENEFITS

Hold Back Strength of Up to 15 Feet

Capable of compensating for elevation changes in a zone of up to 15 feet, the Precision™ Check Valve (PCV) eliminates issues with low head drainage and the resulting water waste.

Spring-Actuated Design

Spring actuation ensures an immediate check when the irrigation cycle ends.

Low Profile

The PCV-500 adds less than 3/8" of height to retrofitted spray heads and can be retrofit to side inlet spray heads with minimal digging. The low profile design makes the PCV-500 ideal for turf or slope applications.

A Universal Fit

Featuring 1/2" NPT threads, the PCV fits all major manufacturers' spray bodies and fittings.

PRECISION™ CHECK VALVE MODEL LIST

Model	Description
PCV-500	15' Check Valve, 1/2" NPT

PCV-500 PRESSURE LOSS DATA

Flow Rate (l)	3,8	7,5	11,3	15,1	18,9
Pressure Loss (psi)	3,5	4,1	4.5	4,8	7,0

Note: *Use of the PCV-500 is not recommended for irrigation systems with dynamic operating pressure of less than 2,4 bar.*

Specifying Information—Precision™ Check Valve

PCV-XXX	
Model	*Thread Size*
PCV	**XXX**
PCV—Precision™ Check Valve	500—1/2" NPT, MxF

SPRAY TOOLS & ACCESSORIES

EFFLUENT WATER INDICATORS

570S
(Nozzle not included)
- 570 Series shrub adapter
- Installs onto a ½" NPT riser

570S-E
(Nozzle not included)
- Lavender molded 570S Series shrub adapter
- Installs onto a ½" NPT riser

89-9752
- Lavender snap-on cover for use on 570Z Series pop-up models

102-1211
- Lavender molded cap for use on 570Z Series pop-up models
- Includes wiper seal

ACCESSORIES

995-01
- Flow gauge

SERVICEABLE PARTS

570SEAL
- Serviceable seal for all 570Z models
- Recommended for upgrades

Check Valve 570CV
- Check valve for all the 570Z models
- Install in field to prevent low head drainage
- 10' hold back

RISERS AND EXTENDERS

570-6X
- 570Z Extender
- Male-inlet threads install onto any 570Z pop-up sprinkler or shrub adapter to provide 15cm (6") extension
- Maximum pressure: 5,2 Bar (75 psi)

570SR-18
- 570Z riser for bushes
- ½" male-threaded inlet for installation on pipe fittings
- Maximum pressure: 5,2 Bar (75 psi)
- Height: 45cm (18")

TOOLS

89-6395
- Riser pull-up and screen removal tool for all 570Z Series models

PRNTOOL
- Adjustment Tool for Precision™ Series Rotating Nozzles
- Adjusts arc and radius

PNOZZTOOL
- Riser pull up tool
- Fits all 570Z Sprays

PIPING

This unique piping acts like an extension cord, allowing you to put sprinklers exactly where you want them. Even deep-seated high-pops are easy to install in difficult, hard-to-trench locations.

SUPER FUNNY PIPE®

Toro® Super Funny Pipe is practical and saves time. Whether you are installing a new system or replacing an old sprinkler, Super Funny Pipe makes the job easier.

SPECIFICATIONS

Operational
- Maximum pressure: 8,3 Bar
- Cushions sprinklers from external impact
- Connects to sprinklers and Toro fittings

Dimensions
- Wall thickness: 25mm ± 0,25
- Inside diameter: 12,4mm ± 0,13
- Outside diameter: 17,8mm

Warranty
- Two years

FEATURES & BENEFITS

Flexible, Thick-walled Polyethylene Pipe
Super Funny Pipe is a high-strength poly tubing that solves tough sprinkler installation and replacement problems. It acts as an extension cord between the water line and the sprinkler.

Easy Installation For Problem Areas
One of the most useful and time-saving sprinkler installation aids whether you are installing a new system or replacing an old sprinkler. Also comes pre-assembled as the Super Funny Pipe Swing Joints in 20,3 cm (8") and 30,5 cm (12") lengths or just get the individual fittings as needed.

SUPER FUNNY PIPE FRINCTION LOSS DATA - L/MIN FLOW

L/min	5	10	15	20	25
BAR Loss	0,30	1,02	2,00	3,77	5,58

This chart indicates the amount of pressure loss Bar per meter of Super Funny Pipe at stated flow rates (L/min).

SUPER FUNNY PIPE MODEL LIST

Model	Description
850-23	6,1m (20') Length, 12.4mmPolyethylene Pipe
850-24	15,2m (50') Coil, 12.4mm Polyethylene Pipe
850-25	30,5m (100') Coil, 12.4mm Polyethylene Pipe

SUPER FUNNY PIPE® SWING JOINTS

SPFA-5125

SPFA-585

SPFA-51275

SPFA-5875

SPECIFICATIONS

Warranty

- Two years

SUPER FUNNY PIPE SWING JOINTS MODEL LIST

Model	Description
SPFA-585	200 x13mm (8" x 1⁄2")
SPFA-5875	200 x 20mm (8" x 3⁄4")
SPFA-5125	300 x 13mm (12" x 1⁄2")
SPFA-51275	300 x 20mm (12" x 3⁄4")

SUPER FUNNY PIPE® FITTINGS

850-20

850-34

850-31

850-35

850-32

850-36

850-33

850-37

SUPER FUNNY PIPE FITTINGS FRICTION LOSS DATA

Model No.	Description	Flow Rate (l/min)					
		5	10	15	20	25	30
850-36	20mm Male Adapter	0,01	0,04	0,10	0,20	0,39	0,52
850-35	13mm Male Adapter	0,01	0,03	0,07	0,15	0,28	0,40
850-31	13mm Male Elbow	0,02	0,06	0,14	0,29	0,43	0,69
850-34	13mm Female Elbow	0,02	0,06	0,14	0,29	0,43	0,69
850-32	20mm Male Elbow	0,02	0,07	0,18	0,36	0,60	0,87

This chart indicates the amount of pressure loss Bar per meter of Super Funny Pipe at stated flow rates (L/min).

SUPER FUNNY PIPE FITTINGS MODEL LIST

Model	Description
850-20	Coupling
850-31	Male Elbow, ½"
850-32	Male Elbow, ¾"
850-33	Female Adapter, ½" – ¾"
850-34	Female Elbow, ½"
850-35	Male Adapter, ½"
850-36	Male Coupling, ¾"
850-37	Tee, Barbed Inserts
850-60	Saddle Tee, ¾"
850-61	Saddle Tee, 1"

SPECIFICATIONS

Warranty

- Two years

ROTORS

Dependable, reliable performance is what you will find with Toro rotors for residential, commercial and sports field applications. In addition, you will also find innovative features such as NO TOOLS arc adjustment, higher pop-up heights and some of the most efficient nozzles in the industry.

ROTORS

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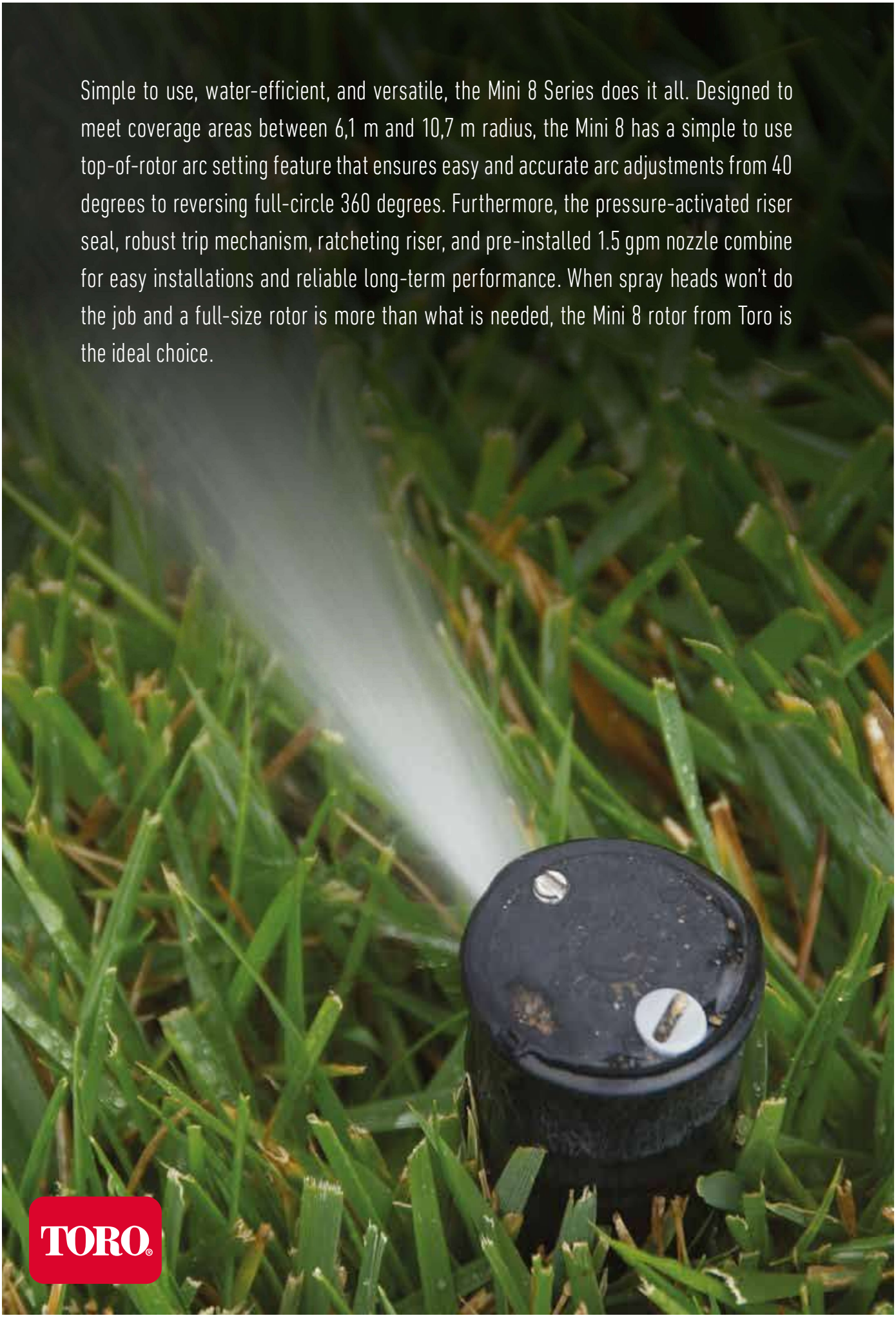


Simple to use, water-efficient, and versatile, the Mini 8 Series does it all. Designed to meet coverage areas between 6,1 m and 10,7 m radius, the Mini 8 has a simple to use top-of-rotor arc setting feature that ensures easy and accurate arc adjustments from 40 degrees to reversing full-circle 360 degrees. Furthermore, the pressure-activated riser seal, robust trip mechanism, ratcheting riser, and pre-installed 1.5 gpm nozzle combine for easy installations and reliable long-term performance. When spray heads won't do the job and a full-size rotor is more than what is needed, the Mini 8 rotor from Toro is the ideal choice.

MINI 8 SERIES ROTORS

FEATURES & BENEFITS

Top-of-Rotor Arc Adjustment
Allows easy arc setting with a slotted screwdriver and features a quick reference dial for fast and accurate adjustments (40° to 360°).

Pressure-activated Riser Seal
Helps prevent debris intrusion into the rotor's body and, ultimately, the system's water lines.

Ratcheting Riser
Allows the riser and fixed left edge to quickly be turned to the desired position without having to re-orient the entire rotor.

Five Interchangeable Nozzles
To cover varying flow and radius requirements.

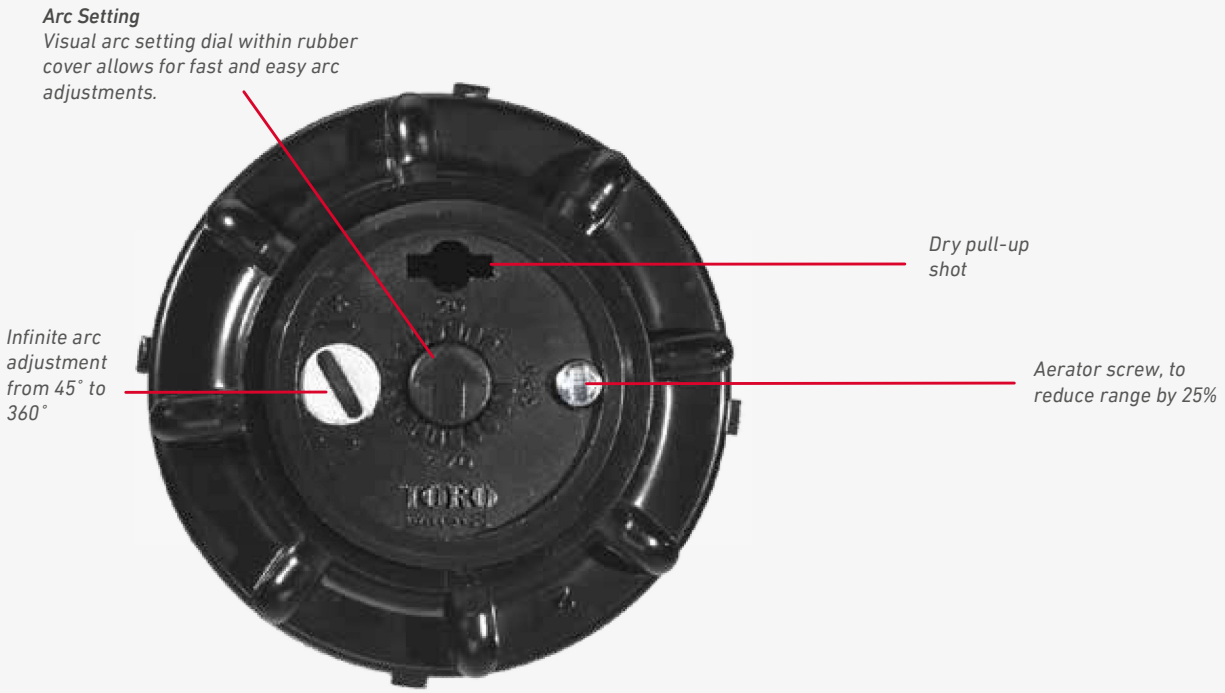
Part and Full Circle In One
Offers more flexibility on new system installs and reduces inventory requirements.

Nozzle Tree
Five interchangeable nozzles – comes pre-installed with a 1.5 nozzle

Check Valve
Optional for field installations

Check Valve Options Available

PRODUCT HIGHLIGHT



Not Too Big and Not Too Small – the Mini 8 is Just Right

The Mini 8 nozzles are designed for the efficient watering of smaller spaces, which means water savings when compared to full-size rotors. When compared to fixed sprays, the flexibility of the Mini 8 reduces the number of heads required, which in turn reduces the number of valves and stations needed. In either scenario, the Mini 8 brings together money savings and better water management.

SPECIFICATIONS

Operational
- Radius: 6,1-10,7m
- Arc Adjustment – 40° to 360°
- Operating Pressure Range: 2,0-3,4 Bar
- Flow Rate: 3,0-12,9 L/min
- Trajectory: 25°

Dimensions
- Body height: 150mm (6")
- Pop-up to nozzle height: 95mm
- Exposed diameter: 45mm
- Cap diameter: 57mm
- Inlet: ½" female-threaded

Options Available
- MINI8-CV – Check Valve – maintains up to 8' elevation change (Bag of 25)
- 102-2024 – Adjustment Tool

Warranty
- Two years

MINI 8 SERIES MODEL LIST

Model	Description
MINI8-4P	Mini 8 Rotor, 100mm (4") Lawn Pop-up

MINI 8 SERIES PERFORMANCE DATA

Nozzle	Bar	L/min	Radius	Prec. Rate (mm/h)	
				▲	■
0.75	2,0	3,0	6,1	5,6	4,8
	2,5	3,3	6,3	5,8	5,0
	3,0	3,8	6,5	6,2	5,4
	3,5	4,6	6,7	7,1	6,1
1.0	2,0	4,2	7,9	4,7	4,0
	2,5	4,6	8,1	4,8	4,2
	3,0	5,2	8,3	5,2	4,5
	3,5	5,7	8,6	5,3	4,6
1.5	2,0	4,5	8,8	4,0	3,5
	2,5	5,0	9,0	4,3	3,7
	3,0	5,6	9,3	4,5	3,9
	3,5	6,1	9,5	4,7	4,0
2.0	2,0	5,3	9,1	4,4	3,8
	2,5	6,0	9,3	4,8	4,2
	3,0	6,8	9,4	5,3	4,6
	3,5	7,7	9,4	6,0	5,2
3.0	2,0	8,7	10,3	5,7	4,9
	2,5	9,4	10,6	5,8	5,0
	3,0	10,4	10,7	6,3	5,4
	3,5	11,5	10,7	6,9	6,0

Radius shown in meters. Data based on 360°.

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

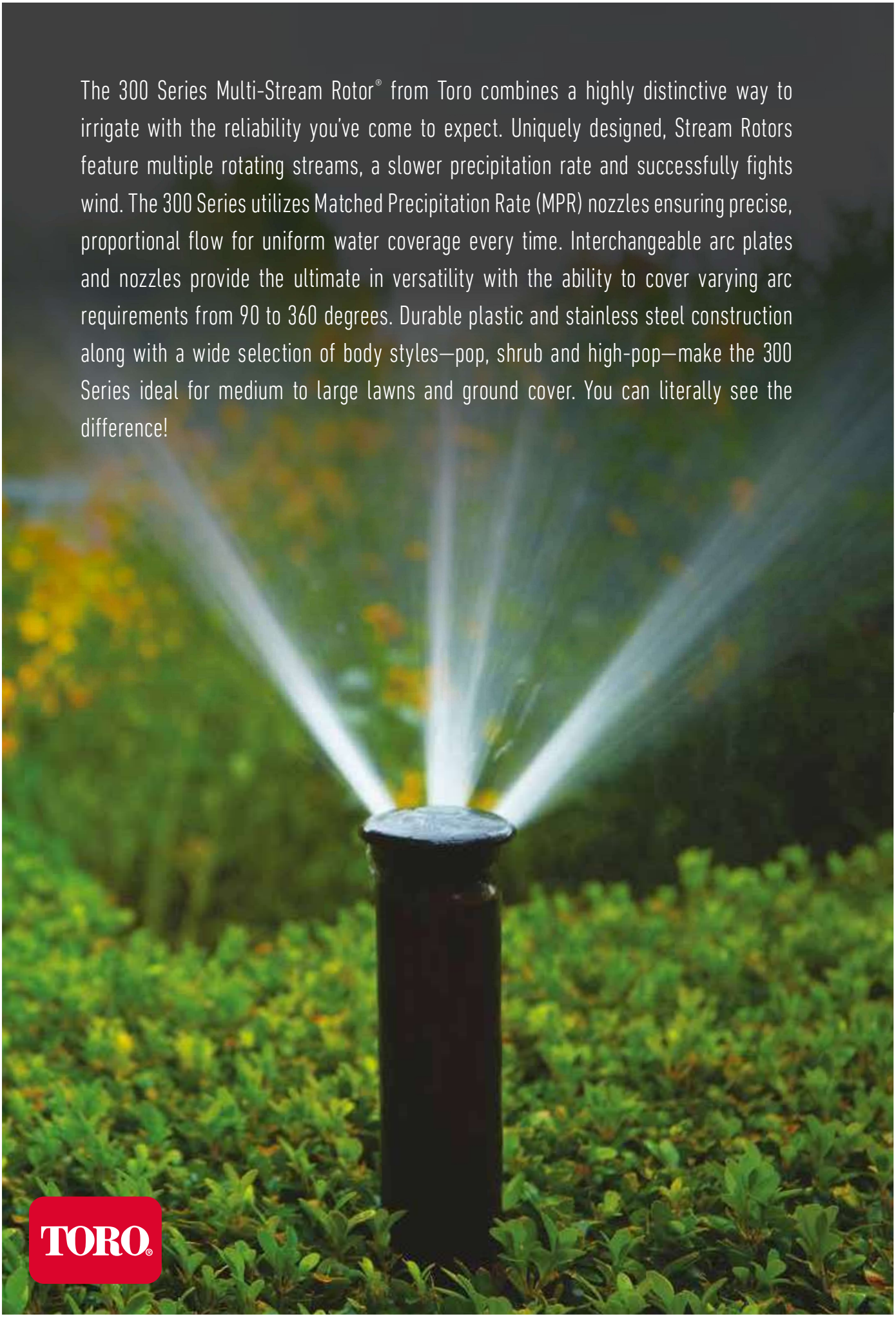
■ *Precipitation rates are for square spacing, shown in millimeters per hour, calculated at 50% of diameter.*

All performance specifications are based on the stated working pressure available at the base of the sprinkler.

** Pre-installed nozzle.*

Specifying Information–Mini 8 Series Rotors

MINI8-4P	
Description	*Body*
MINI8	4P
MINI8—Mini 8 Rotor	4P—Lawn Pop-up


The 300 Series Multi-Stream Rotor® from Toro combines a highly distinctive way to irrigate with the reliability you've come to expect. Uniquely designed, Stream Rotors feature multiple rotating streams, a slower precipitation rate and successfully fights wind. The 300 Series utilizes Matched Precipitation Rate (MPR) nozzles ensuring precise, proportional flow for uniform water coverage every time. Interchangeable arc plates and nozzles provide the ultimate in versatility with the ability to cover varying arc requirements from 90 to 360 degrees. Durable plastic and stainless steel construction along with a wide selection of body styles—pop, shrub and high-pop—make the 300 Series ideal for medium to large lawns and ground cover. You can literally see the difference!
TORO®

300 SERIES MULTI-STREAM ROTOR®

FEATURES & BENEFITS

Unique Multiple Rotating Streams

Provides slow, effective watering, and the ability to couple different arcs on the same zone, which saves time and water.

Matched Precipitation Rate Arc Discs

Ensures uniform delivery of water across each square foot of an irrigated area, resulting in high-precision water application.

Choice Of Six Nozzles and Nine Interchangeable Arc Discs

For maximum versatility covering varying landscape needs.

300 Series arc discs come in nine different selections

Effluent Options Available

Check Valve Options Available

PRODUCT HIGHLIGHT

A Winning Combination of Watering Efficiency and Visual Appeal

The exclusive “fingers of water” application takes a flow of water and divides it into smaller streams at different trajectories for a stronger performance all across the landscape. Shorter radii get the coverage needed with enough water still in the main stream to reach longer distances. This also creates a heavier watering stream at the tail end of the spray allowing for greater wind resistance.

SPECIFICATIONS

Operational

- Radius: 4,6-9,2m
- Flow Rate:
  - Lawn Pop-up and High-pop: 2,1-28,4 L/min
  - Shrub (COM): 7,8-24,0 L/min
- Operating Pressure Range: 2,4-3,5 Bar
- Pop-up Height to Nozzle:
  - Lawn Pop-up: 70mm
  - High-Pop: 298mm
- Inlet (Female-threaded):
  - Lawn Pop-up and High-pop: ¾"
  - Shrub: ½" to ¾"
- Large basket filter screen

Dimensions

- Body Diameter: 60mm
- Cap Diameter: 75mm
- Height:
  - Lawn Pop-up: 155mm
  - High-Pop: 405mm
- Shrub Base Diameter: 45mm

Options Available

Recycled Water Indicators:

- Lavender Cover, High-Pop (89-7854 - fits 300-25 Omni only)
- Lavender Cover, Lawn & Shrub (89-7853 - fits 300-15 Omni only)
- Lavender Cap, Standard Nozzles (89-7889 - fits 01, 02, 03, 63, 93)
- COM Check Seal (89-7561) (Fits Shrub model only)
- 35-1344 — Locking cap for Lawn Pop-up models (standard on high-pop models)

Warranty

- Two years

300 SERIES: 300-15 (LAWN) AND 300-25 (HIGH POP) OMNI PERFORMANCE CHART

Bar	Radius (m)	Precipitation Rate* ▲	Precipitation Rate* ■	360°	270°	225°	202,5°	180°	157,5°	135°	112°	90°
				Flow (at Designated Arcs) (L/min)								
2,5	4,5	44,1	38,2	12,9	9,7	8,1	7,3	6,5	5,7	4,9	4.0	3,2
	5,0	39,0	33,8	14,1	10,6	8,8	8,0	7,1	6,2	5,3	4,4	3,5
	6,0	31,9	27,6	16,6	12,5	10,4	9,3	8,3	7,3	6,2	5,2	4,2
	7,0	27,0	23,3	19,1	14,3	11,9	10,7	9,6	8,4	7,2	5,9	4,8
	8,0	24,0	20,8	22,2	16,7	13,9	12,5	11,1	9,7	8,3	6,9	5,6
3,5	6,0	36,9	31,9	19,2	14,4	12,0	10,8	9,6	8,4	7,2	6,0	4,8
	7,0	31,3	27,1	22,2	16,7	13,9	12,5	11,1	9,7	8,3	6,9	5,6
	8,0	27,2	23,6	25,2	18,9	15,7	14,2	12,6	11,0	9,4	7,8	6,3
	9,0	24,1	20,9	28,2	21,1	17,6	15,8	14,1	12,3	10,6	8,8	7,0
	10,0	21,6	18,7	31,2	23,4	19,5	17,5	15,6	13,6	11,7	9,7	7,8

300 SERIES: FIXED RADIUS NOZZLE PERFORMANCE CHART

Nozzle	Bar	Radius (m)	Precipitation Rate* (mm/h) ▲	Precipitation Rate* (mm/h) ■	360°	270°	225°	202,5°	180°	157,7°	135°	112°	90°
					Flow (at Designated Arcs) (L/min)								
01	2,5	4,9	25,4	22,0	8,8	6,6	5,5	4,9	4,4	3,9	3,3	2,8	2,2
	3,5	5,5	25,2	21,8	11,0	8,3	6,9	6,2	5,5	4,8	4,1	3,4	2,8
02	2,5	6,5	18,2	15,7	11,1	8,3	6,9	6,2	5,5	4,8	4,2	3,5	2,8
	3,5	7,4	16,4	14,2	13,0	9,8	8,1	7,3	6,5	5,7	4,9	4,1	3,3
03	2,5	8,6	19,5	16,9	20,9	15,7	13,1	11,7	10,4	9,1	7,8	6,5	5,2
	3,5	9,2	20,1	17,4	24,6	18,5	15,4	13,8	12,3	10,8	9,2	7,7	6,2
63*	2,5	8,6	9,8	8,5	10,5	7,8	6,5	5,9	5,2	4,6	3,9	3,3	2,6
	3,5	9,2	10,1	8,7	12,3	9,2	7,7	6,9	6,2	5,4	4,6	3,9	3,9
93*	2,5	8,6	14,7	12,7	15,7	11,7	9,8	8,8	7,8	6,9	5,7	4,9	3,9
	3,5	9,2	15,1	13,1	18,5	13,9	11,5	10,4	9,2	8,1	6,9	5,8	4,6

**Radius shown in meters. Data based on 360°.*

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

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

All performance specifications are based on the stated working pressure available at the base of the sprinkler.

300 SERIES SHRUB WITH COM (360° ARC DISC)

Model Nos. 300-10-00COM —Metric

Nozzle	Bar	L/min	Radius
01	3,5	7,9	4,3
01	5,0	10,8	4,8
02	3,5	9,5	7,0
02	5,0	13,5	7,6
03	3,5	17,4	8,2
03	5,0	23,0	8,8
63	3,5	10,2	8,6
63	5,0	14,0	9,1
93	3,5	14,0	8,9
93	5,0	19,4	9,4
Omni (Min)	3,5	10,2	4,9
Omni (Min)	5,0	14,5	5,4
Omni (Max)	3,5	21,1	9,2
Omni (Max)	5,0	23,8	10

300 SERIES LAWN POP-UP APEX @ 3,5 BAR

Nozzle	27°
	Max. Ht. of Spray
01	1,47 m
02	1,55 m
03	1,8 m
63	2,1 m
93	1,9 m

300 SERIES MULTI-STREAM ROTOR MODEL LIST

Model	Description
300-00-00	Lawn Pop-up without Nozzle
300-10-00	Shrub without Nozzle
300-12-00	12" High Pop without Nozzle

Specifying Information—300 Series Multi-Stream Rotor

3XX-XX-XX-COM-E

Arc	*Body*	*Nozzle*	*Optional*	*Optional*
3XX	**XX**	**XX**	**COM**	**E**
04—90° 05—112° 06—135° 07—157.5° 08—180° 09—202.5° 10—225° 12—270° 16—360°	00—Lawn Pop-up 10—Shrub 12—High Pop	01/21—Small Radius, 12 Ports 02/22—Medium Radius, 12 Ports 03/23—Large Radius, 12 Ports 15—Adjustable Shrub & Lawn Pop-up 25—Adjustable, High Pop-up 63—Large Radius, 6 Ports, Low flow* 93—Large Radius, 9 Ports, Low flow*	COM—Check-O-Matic *(COM available on shrub model only)*	E—Effluent

Example: A 300 Series Shrub Sprinkler with a 90° arc and an adjustable nozzle, would be specified as: **304-10-15**

** Available on Lawn Pop-up and Shrub only.*


The Toro® T5 RapidSet rotor can be set in seconds. Engineered to use the slip clutch to adjust the arc, the T5 RapidSet rotor requires NO TOOLS for arc adjustments. Along with a five inch pop-up height of the Lawn model, the T5 RapidSet rotors feature exclusive Airfoil Technology™ standard and low angle nozzles that deliver class-leading* distribution uniformity. Designed to save water, save time, and save money, the T5 RapidSet rotor is the only ¾" rotor needed to get the job done.
WATER SMART
TORO
*Based on independently tested performance profiles from the Center for Irrigation Technology

T5 RAPIDSET® SERIES ROTORS

FEATURES & BENEFITS

RapidSet® Arc Adjustment

Arc adjustments from 40° to 360° can be made quickly with a few twists of the turret – no tools required. The RapidSet slip clutch also protects against gear damage caused by intentional vandalism or inexperienced users.

Lawn Model with a 12,7cm Pop-up Height

Fits in the same footprint as many competing 10cm (4") rotors for hassle-free retrofits, but delivers an extra inch of pop-up height, allowing the nozzle to clear tall grasses.

Airfoil Technology™ Nozzles

The T5 RapidSet rotor comes with a full set of 8 standard nozzles (25° trajectory) and 4 low angle (10° trajectory) nozzles that utilize proprietary Airfoil Technology, which creates a zone of low pressure just below the main stream to gently guide water downward for unmatched uniformity without forcefully washing out newly-laid seeds.

Design Flexibility

T5 RapidSet rotors are available in Effluent, Shrub, 30,5mm (12") High Pop and Stainless Steel models.

Stainless Steel Model Features

- ✔ 304 Stainless Steel riser and nozzle base protection
- ✔ Ideal for settings with heavy foot traffic or sandy soil conditions
- ✔ Heavy-duty construction protects the rotor from damage caused by vandalism

T5 RAPIDSET® ROTOR MODEL LIST

Model	Description
T5SE-RS	T5 RapidSet Shrub, Effluent
T5P3.0-RS	T5 ROTOR, 5" POP, Nozzle 3.0, RapidSet
T5PE3.0-RS	T5 ROTOR, 5" POP, Nozzle 3.0, RapidSet, Effluent
T5PCK3.0-RS	T5 ROTOR, 5" POP, Nozzle 3.0, RapidSet W/CV
T5HP-RS	T5 RapidSet High Pop
T5HPE-RS	T5 RapidSet High Pop, Effluent
T5PSS3.0-RS	T5 ROTOR, 5" POP, Nozzle 3.0, RapidSet Stainless Steel
T5PPSSE3.0-RS	T5 ROTOR, 5" POP, Nozzle 3.0, RapidSet Stainless Steel Effluent
T5PCKSS3.0-RS	T5 ROTOR, 5" POP, Nozzle 3.0, RapidSet Stainless Steel W/CV
T5PCKSSE3.0-RS	T5 ROTOR, 5" POP, Nozzle 3.0, RapidSet Stainless Steel W/CV, Effluent

Effluent Options Available

Check Valve Options Available

PRODUCT HIGHLIGHT

NO TOOLS Arc Adjustment

12,7cm Pop-Up In a 4"(100mm) Body

Based on the Performance data of the Center for Irrigation Technology

Exclusive Airfoil™ Technology Nozzles

SPECIFICATIONS

Operational

- Radius: 7,6-15,2m
- Flow rate: 2,8-36,5 L/min
- Arc: 40° to 360°, adjustable
- Inlet: ¾" NPT
- Operating pressure range: 1,7-4,5 bar
- Recommended operating pressure: 3,0 Bar
- Trajectory: 25° standard, 10° low angle
- Pop-up height: 12,7 cm (measured from top of cap to nozzle high-pop height opening)
- Factory installed with a #3,0 nozzle (pre-installed)

Dimensions

- Body Diameter:
  - Lawn Pop-up: 57mm
  - Shrub: 57mm
  - High Pop: 57mm
- Cap Diameter:
  - Lawn Pop-up: 67mm
  - Shrub: N/A
  - High Pop: 67mm
- Height:
  - Lawn Pop-up: 190mm
  - Shrub: 196mm
  - High Pop: 429mm

Warranty

- Five years

T-5 LOW ANGLE NOZZLE PERFORMANCE DATA

Nozzle	Pressure Bar	Radius m	Flow m^3/hr	Flow l/min	Precipitation Rate (mm/h) ■	▲
1.0 LA	1,7	7,62	0,17	2,8	5,79	6,68
	2,0	7,99	0,19	3,1	5,84	6,74
	2,5	8,53	0,22	3,6	5,93	6,84
	3,0	8,53	0,23	3,8	6,29	7,26
	3,5	8,71	0,25	4,1	6,52	7,53
	4,0	8,84	0,27	4,4	6,82	7,88
	4,5	8,84	0,28	4,7	7,27	8,39
1.5 LA	1,7	8,23	0,25	4,2	7,38	8,52
	2,0	8,60	0,27	4,5	7,38	8,52
	2,5	9,18	0,31	5,2	7,39	8,53
	3,0	9,40	0,34	5,7	7,68	8,87
	3,5	9,45	0,38	6,3	8,41	9,71
	4,0	9,45	0,41	6,8	9,13	10,55
	4,5	9,45	0,43	7,2	9,67	11,16
2.0 LA	1,7	8,84	0,32	5,3	8,14	9,40
	2,0	9,08	0,35	5,8	8,41	9,72
	2,5	9,49	0,40	6,7	8,89	10,27
	3,0	9,71	0,45	7,6	9,64	11,14
	3,5	9,93	0,49	8,2	9,98	11,52
	4,0	10,06	0,52	8,7	10,37	11,98
	4,5	10,06	0,56	9,3	11,00	12,70
3.0 LA	1,7	8,84	0,50	8,3	12,79	14,77
	2,0	9,33	0,54	8,9	12,32	14,23
	2,5	10,10	0,60	10,1	11,84	13,67
	3,0	10,32	0,68	11,3	12,73	14,70
	3,5	10,71	0,74	12,3	12,87	14,86
	4,0	10,97	0,79	13,2	13,17	15,21
	4,5	10,97	0,84	14,0	13,96	16,12

**Recommended operating pressure. Data based on 180°.*

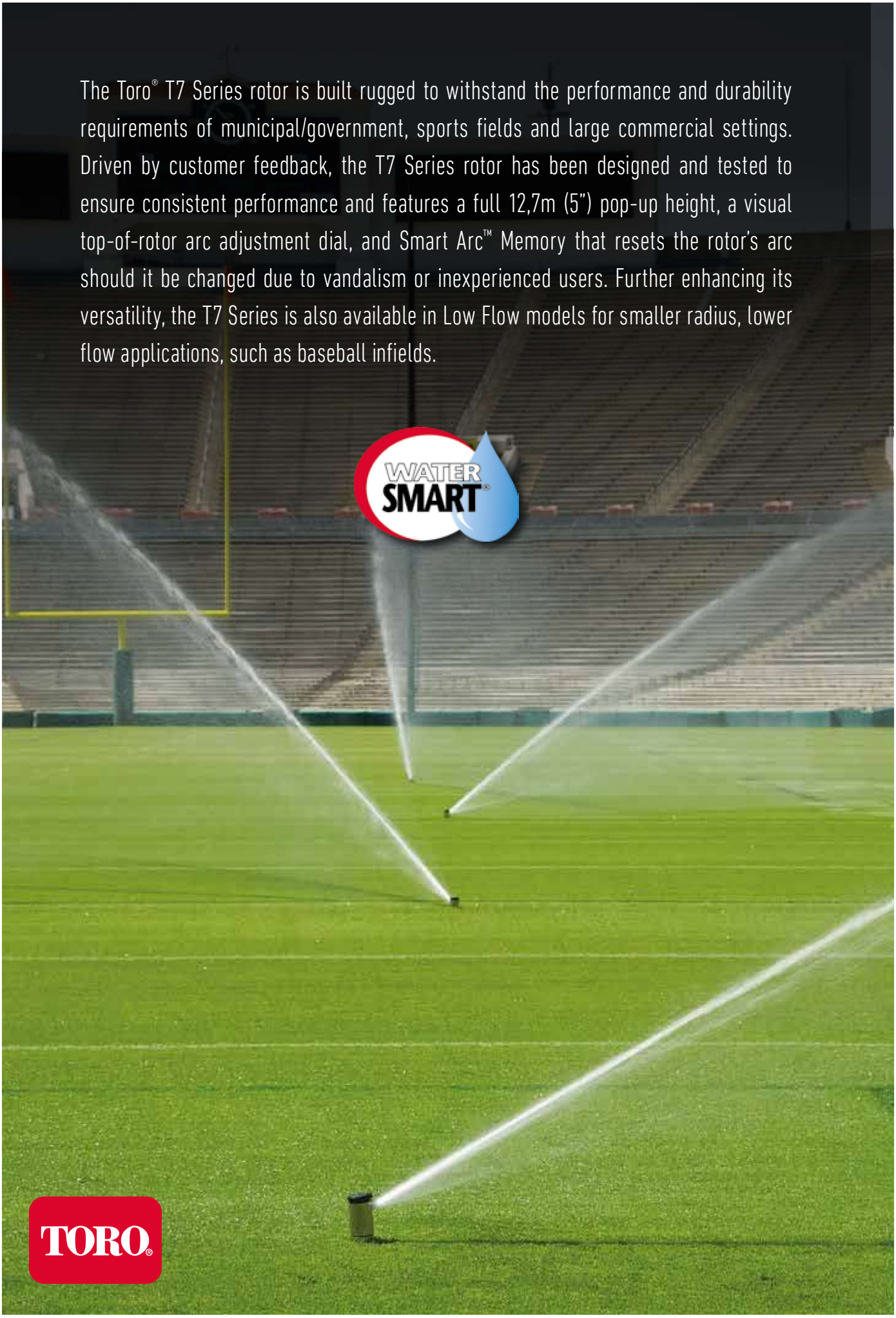
T5 RAPIDSET NOZZLE PERFORMANCE DATA

Nozzle	Pressure Bar	Radius m	Flow m^3/hr	Flow l/min	Precipitation Rate (mm/h) ■	▲
1.5	1,7	10,06	0,26	4,4	5,16	5,96
	2,0	10,18	0,28	4,7	5,44	6,29
	2,5	10,40	0,32	5,3	5,90	6,82
	3,0	10,62	0,35	5,9	6,27	7,25
	3,5	10,67	0,38	6,3	6,69	7,73
	4,0	10,76	0,40	6,7	6,99	8,07
	4,5	10,97	0,43	7,1	7,09	8,19
2.0	1,7	10,67	0,33	5,5	5,79	6,68
	2,0	10,79	0,36	6,0	6,20	7,16
	2,5	11,01	0,42	7,0	6,89	7,96
	3,0	11,23	0,47	7,8	7,46	8,62
	3,5	11,28	0,51	8,4	7,94	9,17
	4,0	11,28	0,54	9,0	8,52	9,83
	4,5	11,28	0,59	9,8	9,21	10,64
2.5	1,7	10,67	0,40	6,6	6,98	8,07
	2,0	10,79	0,44	7,3	7,53	8,70
	2,5	11,01	0,51	8,5	8,41	9,71
	3,0	11,23	0,57	9,5	8,99	10,39
	3,5	11,28	0,61	10,2	9,62	11,11
	4,0	11,28	0,65	10,9	10,27	11,86
	4,5	11,28	0,69	11,5	10,89	12,58
3.0 Standard	1,7	10,97	0,50	8,3	8,30	9,58
	2,0	11,22	0,54	8,9	8,52	9,84
	2,5	11,66	0,60	10,1	8,88	10,25
	3,0	12,10	0,68	11,3	9,25	10,68
	3,5	12,19	0,75	12,6	10,15	11,72
	4,0	12,19	0,82	13,6	11,01	12,72
	4,5	12,19	0,86	14,4	11,61	13,41
4.0	1,7	11,28	0,67	11,2	10,54	12,17
	2,0	11,64	0,72	12,1	10,69	12,34
	2,5	12,27	0,82	13,7	10,92	12,61
	3,0	12,71	0,91	15,2	11,30	13,04
	3,5	12,80	0,98	16,3	11,92	13,77
	4,0	12,89	1,04	17,3	12,49	14,42
	4,5	13,11	1,10	18,4	12,83	14,81
5.0	1,7	11,89	0,85	14,2	12,05	13,92
	2,0	12,13	0,92	15,3	12,50	14,44
	2,5	12,57	1,04	17,3	13,15	15,18
	3,0	13,02	1,14	19,0	13,44	15,51
	3,5	13,46	1,24	20,7	13,73	15,86
	4,0	13,72	1,33	22,2	14,14	16,33
	4,5	13,72	1,39	23,1	14,73	17,01
6.0	1,7	11,89	0,95	15,9	13,50	15,59
	2,0	12,38	1,04	17,4	13,65	15,76
	2,5	13,22	1,21	20,1	13,79	15,92
	3,0	13,88	1,35	22,4	13,96	16,12
	3,5	14,20	1,45	24,2	14,42	16,65
	4,0	14,42	1,55	25,9	14,93	17,24
	4,5	14,63	1,65	27,4	15,39	17,77
8.0	1,7	10,97	1,31	21,8	21,69	25,05
	2,0	11,83	1,43	23,8	20,43	23,59
	2,5	13,26	1,64	27,3	18,65	21,54
	3,0	14,14	1,80	29,9	17,96	20,74
	3,5	14,50	1,95	32,4	18,51	21,37
	4,0	14,81	2,08	34,7	18,99	21,93
	4,5	15,24	2,20	36,7	18,97	21,91

Precipitation rates based on half-circle operation
■ Square spacing based on 50% diameter of throw
▲ Triangular spacing based on 50% diameter of throw

Specifying Information — T5 RapidSet Rotors

T5XX XX XX X.X E-RS						
Base Model	*Body*	*Optional*	*Optional*	*Custom Nozzles*	*Optional*	
T5	**XX**	**XX**	**XX**	**X.X**	**E**	**-RS**
T5— T5 RapidSet Series Rotor	P - Lawn S - Shrub HP - High Pop	CK — Check Valve	SS — Stainless Steel Riser	1.5-5,9L/min (1.5 gpm) 2.0-7,8L/min (2.0 gpm) 2.5-9,5L/min (2.5 gpm)	E — Effluent	RS — RapidSet
Example: A T5 RapidSet Lawn Pop-up sprinkler with a 2.5 nozzle and Check Valve would be specified as: **T5PCK2.5-RS**						


The Toro® T7 Series rotor is built rugged to withstand the performance and durability requirements of municipal/government, sports fields and large commercial settings. Driven by customer feedback, the T7 Series rotor has been designed and tested to ensure consistent performance and features a full 12,7m (5") pop-up height, a visual top-of-rotor arc adjustment dial, and Smart Arc™ Memory that resets the rotor's arc should it be changed due to vandalism or inexperienced users. Further enhancing its versatility, the T7 Series is also available in Low Flow models for smaller radius, lower flow applications, such as baseball infields.
WATER SMART
TORO

T7 SERIES ROTORS

FEATURES & BENEFITS

Visual Arc Indication
Arc setting indicator on top of the rotor allows for easy wet or dry adjustments from 45°-360°.

High Efficiency Nozzles
Single port design ensures water is evenly distributed across the stream.

Vandal and Abuse Resistance
Smart Arc™ memory safely returns the sprinkler to previously set arc if vandalized. An integrated slip clutch prevents the breaking and stripping of gears.

Design Solutions and Safety
Standard Check-O-Matic Seal prevents low head drainage, and a minimal 2.2" exposed rubber cover diameter reduces the potential for injuries on play areas.

Durability
Heavy-duty retract spring and wiper seal reduce the occurrence of stick-ups and seal leakage, while a water-lubricated gear drive contributes to long-term consistent performance.

Additional Features

- ✔ Standard reversible Check-O-Matic seal
- ✔ Included nozzle trees:
  - Low flow nozzles (2, 3, 4.5, 6, 7.5, and 9)
  - Standard nozzles (7, 9, 12, 16, 20, 24, and 27)
- ✔ Slip clutch
- ✔ Locking cap screw
- ✔ Adjustment/pull up tool included

Effluent Options Available

Check Valve Options Available

SST Riser Options Available

PRODUCT HIGHLIGHT

Arc Setting
Visual arc setting dial within rubber cover allows for fast and easy arc adjustments.

T7 RAPIDSET® ROTOR MODEL LIST

Modello	Descrizione
T7P-52	T7 Series 25mm (1") Rotor, BSP Thread
T7P-52E	T7 Series 25mm (1") Rotor, BSP Thread, Effluent Cover
T7PSS-52	T7 Series 25mm (1") Rotor, BSP Thread, Stainless Steel Riser
T7PSS-52E	T7 Series 25mm (1") Rotor, BSP Thread, Stainless Steel Riser, Effluent Cover

RAPIDSET® ROTOR MODEL LIST LOW FLOW VERSION ®

Modello	Descrizione
T7P-52L	T7 Series 25mm (1") Rotor, BSP Thread - Low Flow
T7P-52LE	T7 Series 25mm (1") Rotor, BSP Thread, Effluent Cover - Low Flow
T7PSS-52L	T7 Series 25mm (1") Rotor, BSP Thread, Stainless Steel Riser - Low Flow
T7PSS-52LE	T7 Series 25mm (1") Rotor, BSP Thread, Stainless Steel Riser, Effluent Cover - Low Flow

SPECIFICATIONS

Operational

- Radius capability:
  - Low flow models—11,6-17,1 m
  - Standard models—14,0-22,9 m
- Flow rates:
  - Low flow models—6,5-48,2 L/min
  - Standard models—25,0-115,5 m
- Operating pressure range: 2,8 - 6,9 Bar
- Recommended operating pressure: 4,1-4,8 Bar
- Inlet size: 1" female BSP
- Nozzle trajectory: 25°
- Arc adjustment: 45°-360° (unidirectional at 360°)

Dimensions

- Pop-up height (measured from top of cap to nozzle): 127mm (5")
- Body height: 220mm (8,8")
- Body diameter: 70mm (2,7")
- Rubber cover diameter: 57mm (2,2")

Available Options

- Stainless Steel riser
- Effluent Lavender rubber cover

Warranty

- Five years

T7 SPORTS ROTOR NOZZLE PERFORMANCE DATA -HIGH FLOW-

Nozzle	Pressure (Bar)	Flow (L/min)	Radius (m)	Prec. Rate mm/h ■	Prec. Rate mm/h ▲
7.0	2,8	25,8	14,1	7,87	8,97
	3,4	28,1	14,8	8,21	9,36
	4,1	30,7	14,9	8,60	9,81
	4,8	33,7	15,3	9,07	10,34
	5,5	36,6	15,8	9,09	10,37
	6,2	38,9	15,8	9,29	10,59
	6,9	41,1	16,3	9,10	10,37
9.0	2,8	28,5	14,4	8,35	9,52
	3,4	31,2	15,4	8,07	9,20
	4,1	33,7	15,3	8,38	9,55
	4,8	37,1	15,8	8,87	10,12
	5,5	39,7	16,4	8,80	10,04
	6,2	42,4	16,3	9,06	10,33
	6,9	44,8	16,5	9,23	10,52
12.0	2,8	37,7	15,3	9,74	11,10
	3,4	39,9	16,3	9,92	11,32
	4,1	43,6	17,3	10,04	11,45
	4,8	47,5	18,0	10,52	11,99
	5,5	51,1	18,2	10,92	12,45
	6,2	54,4	18,5	11,22	12,79
	6,9	57,5	19,2	11,43	13,03
16.0	2,8	50,8	16,0	11,68	13,32
	3,4	56,6	17,4	11,67	13,30
	4,1	59,8	18,3	11,48	13,09
	4,8	64,8	18,6	12,03	13,72
	5,5	69,7	19,4	12,10	13,80
	6,2	74,3	19,6	12,50	14,25
	6,9	78,7	20,0	12,82	14,62
20.0	2,8	61,0	15,8	14,02	15,99
	3,4	69,7	17,5	13,38	15,26
	4,1	74,1	18,6	13,29	15,16
	4,8	79,5	19,4	13,81	15,75
	5,5	85,5	20,2	13,07	14,90
	6,2	90,8	20,7	13,47	15,36
	6,9	95,7	21,4	13,78	15,71
24.0	2,8	58,5	16,4	13,99	15,95
	3,4	67,0	18,4	12,02	13,70
	4,1	74,8	19,4	12,18	13,88
	4,8	81,8	20,2	12,51	14,27
	5,5	88,2	20,8	12,69	14,47
	6,2	94,2	21,3	13,16	15,00
	6,9	99,6	22,0	12,76	14,55
27.0	2,8	73,3	16,8	15,66	17,86
	3,4	83,2	19,6	12,72	14,51
	4,1	90,2	21,6	11,56	13,18
	4,8	97,2	22,0	12,11	13,81
	5,5	103,5	22,3	12,55	14,31
	6,2	109,9	22,7	12,97	14,79
	6,9	115,5	22,9	13,27	15,13

T7 SPORTS ROTOR NOZZLE PERFORMANCE DATA -LOW FLOW-

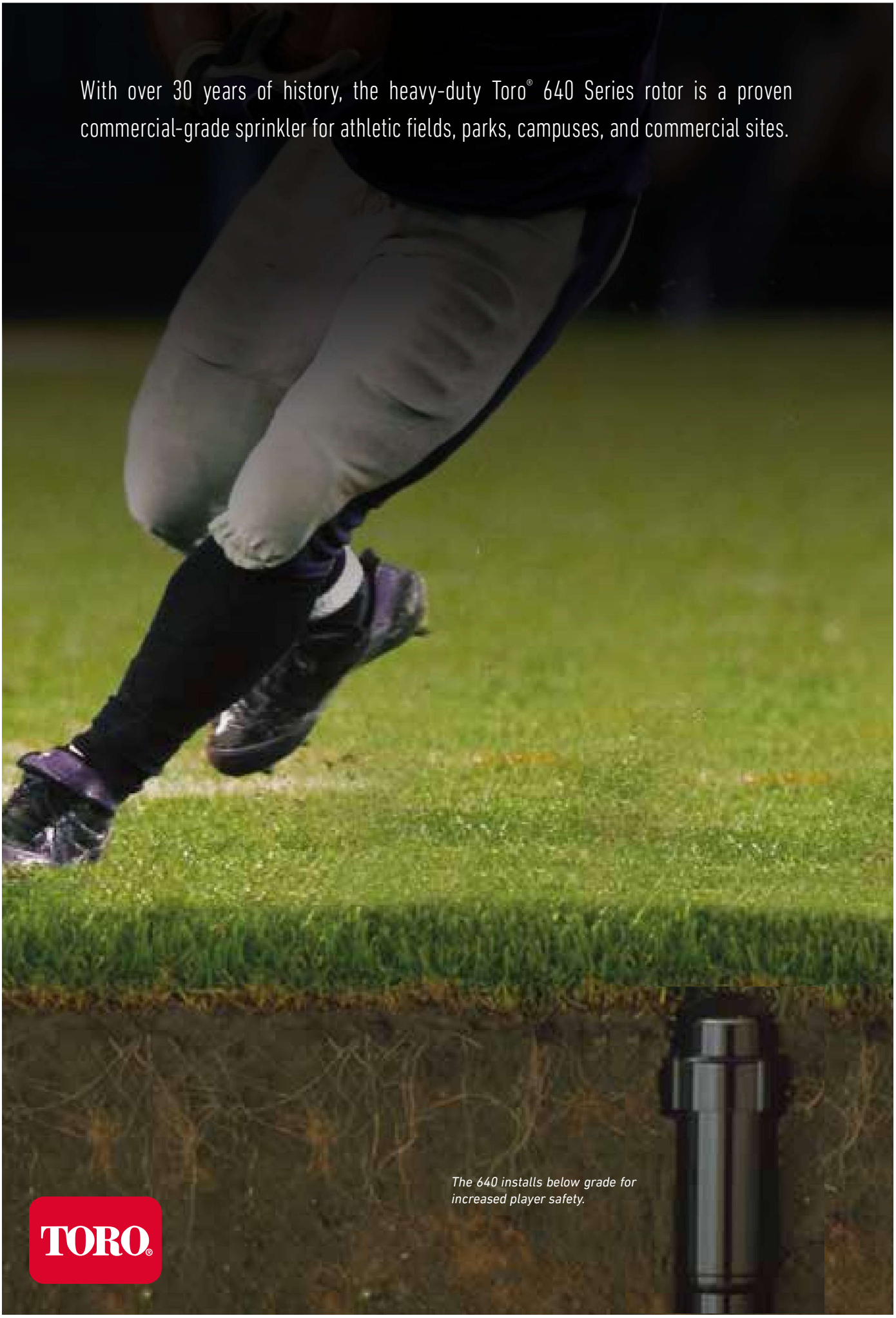
Nozzle	Pressure (Bar)	Flow (L/min)	Radius (m)	Prec. Rate mm/h ■	Prec. Rate mm/h ▲
2.0	2,8	6,5	12,2	2,78	3,17
	3,4	7,4	12,8	3,15	3,59
	4,1	8,2	12,8	3,32	3,78
	4,8	8,9	12,5	3,61	4,11
	5,5	9,6	12,8	3,88	4,43
	6,2	10,3	12,5	3,94	4,50
	6,9	10,9	12,5	4,19	4,78
3.0*	2,8	9,2	12,5	3,91	4,46
	3,4	10,5	12,8	4,23	4,83
	4,1	11,7	12,5	4,51	5,14
	4,8	12,8	12,5	4,92	5,61
	5,5	13,8	12,8	5,05	5,76
	6,2	14,7	12,5	5,15	5,87
	6,9	15,4	13,1	5,37	6,12
4.5	2,8	15,4	11,6	6,89	7,86
	3,4	17,6	12,5	6,77	7,72
	4,1	19,6	12,5	7,52	8,58
	4,8	21,3	12,8	7,82	8,92
	5,5	23,0	12,8	8,43	9,61
	6,2	24,6	13,1	8,59	9,79
	6,9	26,0	13,1	9,10	10,38
6.0	2,8	18,6	13,1	6,51	7,42
	3,4	21,3	14,0	6,51	7,42
	4,1	23,7	14,6	6,66	7,59
	4,8	26,7	15,2	7,18	8,19
	5,5	27,9	14,9	7,51	8,56
	6,2	29,8	15,2	7,70	8,78
	6,9	31,7	15,2	8,19	9,34
7.5	2,8	21,9	13,4	7,30	8,33
	3,4	25,1	14,0	7,66	8,74
	4,1	27,9	14,6	7,82	8,92
	4,8	30,5	15,2	8,20	9,35
	5,5	33,0	15,5	8,54	9,74
	6,2	35,8	15,8	9,26	10,55
	6,9	37,4	15,8	8,95	10,20
9.0	2,8	27,7	13,7	8,85	10,10
	3,4	31,9	14,9	8,60	9,80
	4,1	35,5	15,5	8,83	10,07
	4,8	39,5	16,5	9,08	10,36
	5,5	42,7	16,8	9,11	10,39
	6,2	45,6	16,8	9,74	11,11
	6,9	48,2	17,1	9,94	11,33

When the sprinkler is adjusted to 360°, it will be uni-directional in that direction of rotation (clockwise or counterclockwise) at the moment when the sprinkler was changed to 360°
** Pre-installed nozzle. Data based on 180°.*

Specifying Information—T7 Series Rotors

T7PXX-52XX			
Description	*Optional*	*Thread*	*Optional*
T7P	**XX**	**52**	**XX**
T7 Series Rotor	SS-Stainless Steel Riser	52—BSP	E—Effluent L—Low Flow
Example: A low flow T7 Series rotor with a Stainless Steel riser and Effluent rubber cover would be specified as: **T7PSS-52LE**			

With over 30 years of history, the heavy-duty Toro® 640 Series rotor is a proven commercial-grade sprinkler for athletic fields, parks, campuses, and commercial sites.



The 640 installs below grade for increased player safety.

TORO®

640 SERIES ROTORS

FEATURES & BENEFITS

Normally Open Valve-In-Head Body

Allows individual head control - the only commercial grade Toro rotor available with this feature.

Standard Check Valve

Prevents low head drainage and keeps laterals charged with water.

Additional Features

- ✔ Standard rubber cover
- ✔ Vandal-resistant cap with locking set screw
- ✔ Small exposed surface diameter
- ✔ Basket filter screen

Effluent Options Available

Check Valve Options Available

640 SERIES PERFORMANCE DATA

Nozzle	Pressure (Bar)	Flow (L/min)	Radius (M)	360°		270°		238°		192°		180°		173°	
				▲	■	▲	■	▲	■	▲	■	▲	■	▲	■
40	3,0	23,6	14,6	7,62	6,60	10,16	8,81	11,53	9,99	14,29	12,38	15,24	13,21	15,86	13,74
	3,5	25,5	15,3	7,62	6,60	10,16	8,81	11,53	9,99	14,29	12,38	15,24	13,21	15,86	13,74
	4,0	27,1	15,8	7,52	6,55	10,02	8,74	11,37	9,91	14,10	12,29	15,04	13,11	15,65	13,64
	4,5	29,2	16,0	8,01	6,74	10,68	8,98	12,11	10,19	15,01	12,63	16,01	13,47	16,66	14,02
	5,0	30,9	16,2	8,19	6,92	10,92	9,23	12,39	10,47	15,36	12,98	16,38	13,84	17,05	14,40
	5,5	32,6	16,5	8,38	7,11	11,18	9,48	12,68	10,76	15,72	13,34	16,76	14,22	17,44	14,80
	6,0	34,7	16,7	8,56	7,29	11,41	9,72	12,95	11,03	16,05	13,67	17,12	14,58	17,81	15,17
41	3,0	36,9	15,2	11,15	9,72	14,87	12,95	16,87	14,70	20,91	18,22	22,30	19,43	23,20	20,22
	3,5	38,8	16,2	10,20	8,91	13,60	11,88	15,43	13,48	19,12	16,70	20,40	17,82	21,22	18,54
	4,0	41,0	16,4	10,57	9,04	14,09	12,06	15,98	13,68	19,81	16,95	21,13	18,08	21,99	18,82
	4,5	43,6	16,6	11,06	9,53	14,74	12,71	16,72	14,42	20,73	17,87	22,11	19,06	23,01	19,83
	5,0	46,1	16,8	11,24	9,72	14,99	12,95	17,00	14,70	21,07	18,22	22,48	19,43	23,39	20,22
	5,5	48,1	17,1	11,43	9,91	15,24	13,21	17,29	14,98	21,43	18,57	22,86	19,81	23,78	20,61
	6,0	49,9	17,3	11,61	10,08	15,48	13,45	17,56	15,25	21,76	18,91	23,22	20,17	24,15	20,98
42	3,0	46,6	16,2	12,27	10,74	16,36	14,33	18,56	16,25	23,00	20,15	24,54	21,49	25,53	22,36
	3,5	49,1	16,8	12,00	10,45	15,99	13,94	18,14	15,81	22,49	19,60	23,99	20,90	24,96	21,75
	4,0	52,5	17,0	12,70	10,87	16,93	14,49	19,21	16,44	23,81	20,38	25,40	21,74	26,43	22,62
	4,5	53,7	17,2	12,46	11,06	16,61	14,74	18,85	16,72	23,36	20,73	24,92	22,11	25,93	23,01
	5,0	57,0	17,7	12,45	11,18	16,59	14,90	18,83	16,90	23,34	20,96	24,89	22,35	25,90	23,26
	5,5	59,8	17,7	13,21	11,43	17,61	15,24	19,98	17,29	24,77	21,43	26,42	22,86	27,48	23,78
	6,0	62,5	17,7	13,92	11,96	18,56	15,95	21,05	18,10	26,10	22,43	27,84	23,93	28,96	24,89
43	3,0	51,7	17,4	11,85	10,33	15,80	13,77	17,92	15,62	22,22	19,36	23,70	20,65	24,66	21,49
	3,5	55,2	18,0	11,76	10,22	15,68	13,62	17,79	15,45	22,05	19,16	23,52	20,43	24,47	21,26
	4,0	58,4	17,9	12,65	10,87	16,87	14,49	19,13	16,44	23,72	20,38	25,30	21,74	26,32	22,62
	4,5	62,0	18,3	12,95	11,18	17,27	14,90	19,59	16,90	24,29	20,96	25,91	22,35	26,96	23,26
	5,0	66,2	19,0	12,57	11,18	16,76	14,90	19,02	16,90	23,57	20,96	25,15	22,35	26,16	23,26
	5,5	69,3	19,2	12,95	11,18	17,27	14,90	19,59	16,90	24,29	20,96	25,91	22,35	26,96	23,26
	6,0	72,2	19,4	13,31	11,53	17,75	15,38	20,13	17,44	24,96	21,62	26,62	23,06	27,70	24,00
44	3,0	65,7	17,3	15,14	13,20	20,18	17,59	22,90	19,96	28,38	24,74	30,28	26,39	31,50	27,46
	3,5	70,8	18,3	14,52	12,74	19,35	16,98	21,96	19,27	27,22	23,88	29,03	25,48	30,21	26,51
	4,0	73,8	18,5	14,88	13,16	19,85	17,54	22,51	19,90	27,91	24,67	29,77	26,31	30,97	27,38
	4,5	80,2	18,9	15,37	13,46	20,50	17,95	23,25	20,36	28,83	25,24	30,75	26,92	31,99	28,01
	5,0	84,0	19,4	15,75	13,46	21,00	17,95	23,82	20,36	29,53	25,24	31,50	26,92	32,77	28,01
	5,5	88,6	19,8	15,75	13,46	21,00	17,95	23,82	20,36	29,53	25,24	31,50	26,92	32,77	28,01
	6,0	92,8	20,2	15,75	13,64	21,00	18,19	23,82	20,63	29,53	25,57	31,50	27,28	32,77	28,38

Nozzle	Pressure (Bar)	Flow (L/min)	Radius (M)	148°		127°		108°		90°		60°		45°	
				▲	■	▲	■	▲	■	▲	■	▲	■	▲	■
40	3,0	23,6	14,6	18,54	16,06	21,60	18,72	25,40	22,01	30,48	26,42	45,72	39,62	60,96	52,83
	3,5	25,5	15,3	18,54	16,06	21,60	18,72	25,40	22,01	30,48	26,42	45,72	39,62	60,96	52,83
	4,0	27,1	15,8	18,29	15,94	21,31	18,58	25,06	21,84	30,07	26,21	45,11	39,32	60,15	52,43
	4,5	29,2	16,0	19,48	16,39	22,70	19,10	26,69	22,46	32,03	26,95	48,04	40,42	64,06	53,90
	5,0	30,9	16,2	19,93	16,84	23,22	19,62	27,31	23,07	32,77	27,69	49,15	41,53	65,53	55,37
	5,5	32,6	16,5	20,39	17,30	23,76	20,16	27,94	23,71	33,53	28,45	50,29	42,67	67,06	56,90
	6,0	34,7	16,7	20,82	17,73	24,26	20,66	28,53	24,30	34,24	29,16	51,36	43,74	68,48	58,32
41	3,0	36,9	15,2	27,12	23,63	31,61	27,54	37,17	32,39	44,60	38,86	66,90	58,29	89,20	77,72
	3,5	38,8	16,2	24,81	21,67	28,91	25,25	33,99	29,70	40,79	35,64	61,19	53,45	81,58	71,27
	4,0	41,0	16,4	25,70	22,00	29,95	25,63	35,22	30,14	42,27	36,17	63,40	54,25	84,53	72,34
	4,5	43,6	16,6	26,89	23,18	31,34	27,02	36,85	31,77	44,22	38,13	66,33	57,19	88,44	76,25
	5,0	46,1	16,8	27,34	23,63	31,86	27,54	37,47	32,39	44,96	38,86	67,44	58,29	89,92	77,72
	5,5	48,1	17,1	27,80	24,10	32,40	28,08	38,10	33,02	45,72	39,62	68,58	59,44	91,44	79,25
	6,0	49,9	17,3	28,24	24,53	32,90	28,58	38,69	33,61	46,43	40,34	69,65	60,50	92,86	80,67
42	3,0	46,6	16,2	29,84	26,13	34,78	30,46	40,89	35,81	49,07	42,98	73,61	64,47	98,15	85,95
	3,5	49,1	16,8	29,18	25,42	34,00	29,63	39,98	34,84	47,98	41,81	71,97	62,71	95,96	83,62
	4,0	52,5	17,0	30,89	26,44	36,00	30,82	42,33	36,24	50,80	43,48	76,20	65,23	101,60	86,97
	4,5	53,7	17,2	30,30	26,89	35,32	31,34	41,53	36,85	49,83	44,22	74,75	66,33	99,67	88,44
	5,0	57,0	17,7	30,27	27,18	35,28	31,68	41,49	37,25	49,78	44,70	74,68	67,06	99,57	89,41
	5,5	59,8	17,7	32,13	27,80	37,44	32,40	44,03	38,10	52,83	45,72	79,25	68,58	105,66	91,44
	6,0	62,5	17,7	33,86	29,10	39,46	33,91	46,40	39,88	55,68	47,85	83,52	71,78	111,35	95,71
43	3,0	51,7	17,4	28,82	25,12	33,59	29,27	39,50	34,42	47,40	41,30	71,09	61,95	94,79	82,60
	3,5	55,2	18,0	28,61	24,85	33,34	28,96	39,20	34,06	47,04	40,87	70,56	61,30	94,08	81,74
	4,0	58,4	17,9	30,77	26,44	35,86	30,82	42,16	36,24	50,60	43,48	75,90	65,23	101,19	86,97
	4,5	62,0	18,3	31,51	27,18	36,72	31,68	43,18	37,25	51,82	44,70	77,72	67,06	103,63	89,41
	5,0	66,2	19,0	30,58	27,18	35,64	31,68	41,91	37,25	50,29	44,70	75,44	67,06	100,58	89,41
	5,5	69,3	19,2	31,51	27,18	36,72	31,68	43,18	37,25	51,82	44,70	77,72	67,06	103,63	89,41
	6,0	72,2	19,4	32,37	28,05	37,73	32,69	44,37	38,44	53,24	46,13	79,86	69,19	106,48	92,25
44	3,0	65,7	17,3	36,82	32,10	42,91	37,40	50,46	43,98	60,55	52,78	90,83	79,17	121,11	105,56
	3,5	70,8	18,3	35,31	30,98	41,15	36,11	48,39	42,46	58,06	50,95	87,10	76,43	116,13	101,90
	4,0	73,8	18,5	36,21	32,00	42,19	37,30	49,61	43,86	59,54	52,63	89,31	78,94	119,08	105,26
	4,5	80,2	18,9	37,39	32,75	43,58	38,16	51,24	44,87	61,49	53,85	92,24	80,77	122,99	107,70
	5,0	84,0	19,4	38,31	32,75	44,64	38,16	52,49	44,87	62,99	53,85	94,49	80,77	125,98	107,70
	5,5	88,6	19,8	38,31	32,75	44,64	38,16	52,49	44,87	62,99	53,85	94,49	80,77	125,98	107,70
	6,0	92,8	20,2	38,31	33,18	44,64	38,66	52,49	45,47	62,99	54,56	94,49	81,84	125,98	109,12

Precipitation Rate Data in mm/HR

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

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

All performance specifications are based on the stated working pressure available at the base of the sprinkler.

Radius shown in meters. Data based on 360°.

Note: For the 640, differing arcs cannot be valved together.

SPECIFICATIONS

Operational

- Radius: 14-20m
- Flow Rate: 22,7-94,6 L/min
- Operating Pressure Range: 2,8-6,2Bar
- Trajectory: 27°
- Pop-up to nozzle: 60mm
- Inlet: 1" female-threaded
- Below-grade installation: up to 13mm
- Check-O-Matic maintains up to 14,6m elevation change
- Selection of five nozzles and 12 arcs
- Adjustment screw allows up to 25% radius reduction
- Rotation speed at 360° for the fast-rotating drive is 40 seconds

Dimensions

- Body diameter: 63mm
- Cap diameter: 81mm
- Body height:
  - Check-O-Matic – 230mm
  - Valve-In-head – 267mm
- Exposed surface diameter when buried 13mm below grade: 45mm

Options Available

- Valve-In-Head Snap Ring Pliers (995-100)
- Valve Removal Tool (995-08)
- #41 Fast Rotating Stator (35-0579)

Warranty

- Five years

640 SERIES MODEL LIST

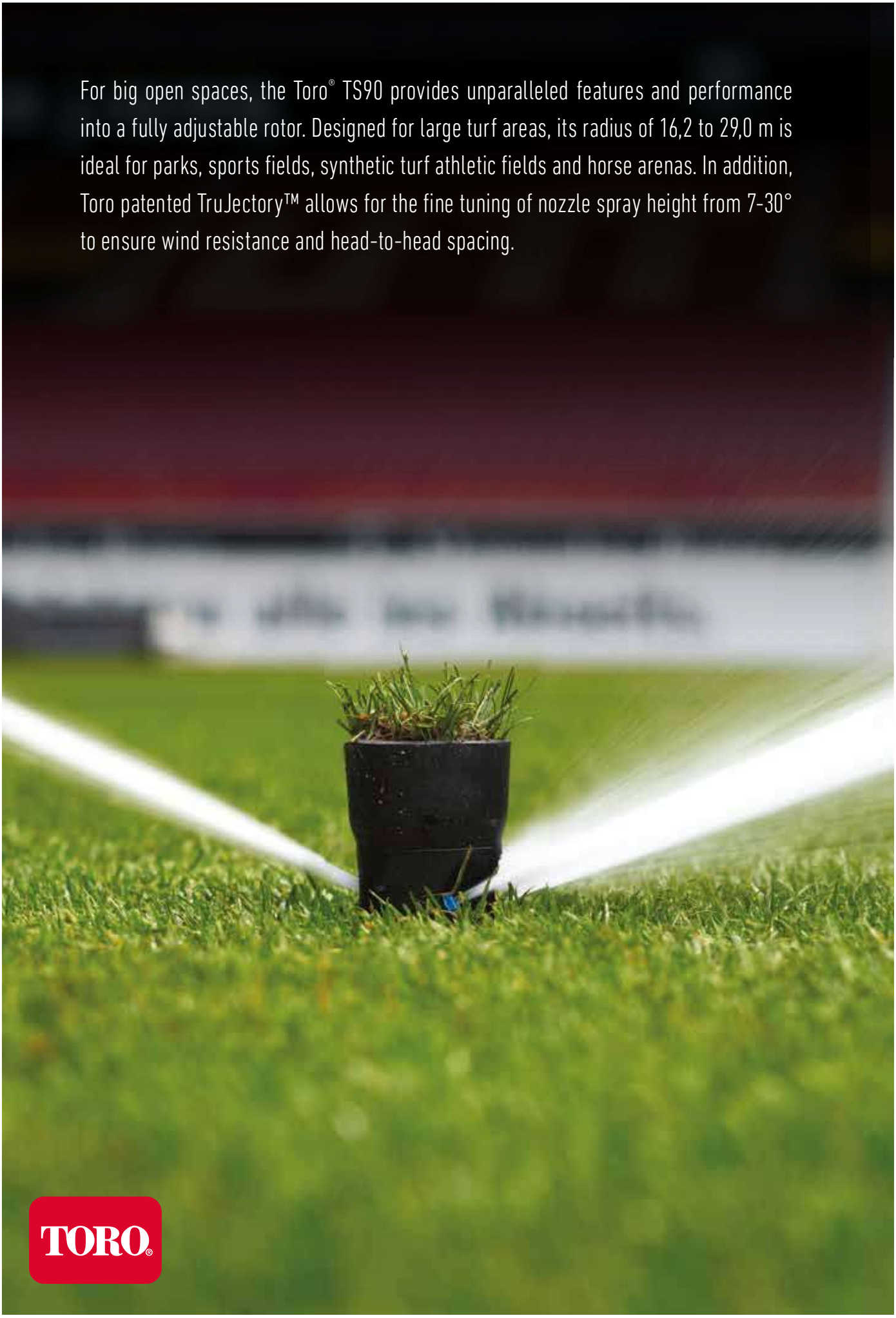
Model	Description
BODY PACKAGE	
640-52	640 Body Package, VIH Check-O-Matic, BSP
640-51	641 Body Package, Normally Open VHI, BSP
NOZZLE/STATOR SET	
640-40	#40 Nozzle and Stator
640-41	#41 Nozzle and Stator
640-42	#42 Nozzle and Stator
640-43	#43 Nozzle and Stator
640-44	#44 Nozzle and Stator
640-40E	#40 Nozzle & Stator, Effluent
640-41E	#41 Nozzle & Stator, Effluent
640-42E	#42 Nozzle & Stator, Effluent
640-43E	#43 Nozzle & Stator, Effluent
640-44E	#44 Nozzle & Stator, Effluent

Model	Description
DRIVE ASSEMBLY	
640-0045	640 Drive Assembly, 45 degrees
640-0060	640 Drive Assembly, 60 degrees
640-0090	640 Drive Assembly, 90 degrees
640-0108	640 Drive Assembly, 108 degrees
640-0127	640 Drive Assembly, 127 degrees
640-0148	640 Drive Assembly, 148 degrees
640-0173	640 Drive Assembly, 173 degrees
640-0180	640 Drive Assembly, 180 degrees
640-0192	640 Drive Assembly, 192 degrees
640-0238	640 Drive Assembly, 238 degrees
640-0270	640 Drive Assembly, 270 degrees
640-0360	640 Drive Assembly, 360 degrees

Specifying Information—640 Series Rotors (Assembled Rotors)

64X-XX-XX				
Arc	*Thread*	*Valve Type*	*Nozzle*	*Optional*
64X	**X**	**X**	**XX**	**E**
0—Special Arc 1—90° 2—180° 3—270° 4—360°	5—BSP Thread	1—Normally Open Valve-In-Head 2—Check-O-Matic	41 - #41 Nozzle 42 - #42 Nozzle 43 - #43 Nozzle 44 - #44 Nozzle	E—Effluent Model
Example: A 640 Series Sprinkler with a 90° arc, 40 nozzle and a check valve, would be specified as: **641-02-40**				

Most 640 sprinklers are available in component parts only. Consult Res/Com Finished Goods Price List for a complete list of sprinklers available as finished goods.



For big open spaces, the Toro® TS90 provides unparalleled features and performance into a fully adjustable rotor. Designed for large turf areas, its radius of 16,2 to 29,0 m is ideal for parks, sports fields, synthetic turf athletic fields and horse arenas. In addition, Toro patented TruJectory™ allows for the fine tuning of nozzle spray height from 7-30° to ensure wind resistance and head-to-head spacing.

TORO®

TS90 SERIES ROTORS

FEATURES & BENEFITS

TruJectory™ Adjustment from 7° to 30°
Fine tunes nozzle spray height, helps provide true head-to-head coverage, and compensates for windy conditions.

Part- and Full-Circle in One Sprinkler
No need to inventory multiple models or service parts

Back Nozzle Capable
Perfect for perimeter of sports fields. Provides the flexibility for fine-tuning any watering requirement.

Ratcheting Riser
Allows you to adjust the riser position in the body without disassembling. Simply pull up the riser and ratchet it to the precise position you want to water.

Three Nozzle Configuration
Provides better distribution uniformity, nozzle flexibility and system efficiency.

Constant-Velocity Drive
Provides reliable rotation speed – from sprinkler to sprinkler.

TurfCup™ for Sports Fields
The optional TurfCup version seamlessly integrates into either natural grass or artificial turf sports fields, enhancing player safety, surface playability and field aesthetics.

Effluent Options Available

Check Valve Options Available

SPECIFICATIONS

Operational
- Radius: 16,2-29,0 m at 25° trajectory
- Flow Rate: 52,9-232,8 L/min
- Precipitation Rate: 14,2-15,2 mm/hr
- Arc: Full- and Part-circle in one
  - Full-circle: 360° unidirectional rotation
  - Part-circle: 40°-330°
- Rotation Speed: 3 minutes ± 30 seconds (360°)
- Inlet: 1" female-threaded BSP
- Operating pressure range: 2,8-7,0 Bar

Dimensions
- Body Height: 254mm
- Overall Height: 317mm
- Retracted Height: 216mm
- Pop-Up Height: 100mm
- Exposed Cap Diameter: 57mm

Warranty
- Five years

Options Available
- Nozzle, #9 Main (102-4259)
- Effleunt Cap Marker (118-0063)
- Main Nozzle Tool: (995-99)
- Intermediate nozzle and TruJectory™ tool (995-105)

Additional Features

- ✔ Full set of color-coded nozzles that thread directly into the nozzle port
- ✔ Rubber cover and below grade installation
- ✔ Check Valve standard – maintains up to 3m elevation
- ✔ Nozzle options: nine main, three intermediate, one inner

TS90 SERIES MODEL LIST

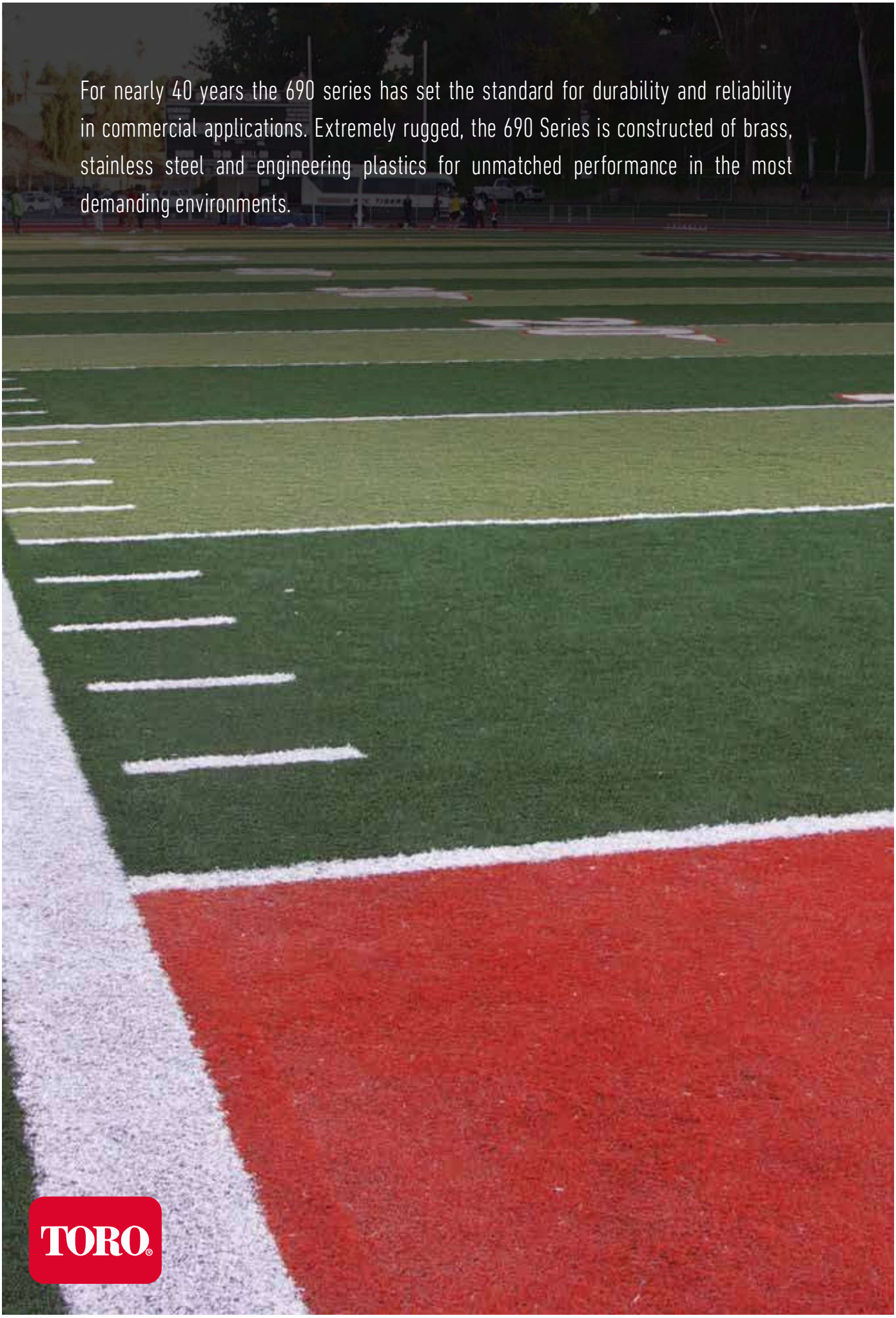
Model	Description
TS90TP-52	1" BSP, Nozzles 1-9 included
TS90TP-52TC	1" BSP with Turf Cup, Nozzles 5-8 included

TS90TP NOZZLE PERFORMANCE DATA

Nozzle Set		Stator	3,4 Bar		4,1 Bar		4,8 Bar		5,5 Bar		6,2 Bar		6,9 Bar	
Number	Main/Intermediate		Radius (m)	Flow (L/min)	Radius (m)	Flow (L/min)	Radius (m)	Flow (L/min)	Radius (m)	Flow (L/min)	Radius (m)	Flow (L/min)	Radius (m)	Flow (L/min)
1	Yellow/Blue	102-1939 Yellow	16,2	53	16,5	58	16,8	62	16,8	66	16,5	70	17,1	74
2	Blue/Red		16,8	71	18,0	78	18,6	84	18,0	89	18,0	95	18,9	100
3	Brown/Orange		-	-	17,4	86	18,3	93	18,6	99	19,2	105	20,7	110
4	Orange/Orange		-	-	-	-	22,6	124	24,4	133	24,7	140	25,0	147
5	Green/Blue	102-1940 White	-	-	-	-	-	-	24,1	143	25,0	151	25,6	158
6	Gray/Blue		-	-	-	-	-	-	25,0	150	26,2	159	26,5	167
7	Black/Orange		-	-	-	-	-	-	24,4	165	26,5	175	25,6	184
8	Red/Blue		-	-	-	-	-	-	26,2	184	26,8	195	26,8	205
9	Beige/Blue	102-1941 White	-	-	-	-	-	-	25,9	208	27,7	221	29,0	233

Specifying Information—TS90TP Series

TS90TP52-XX-X				
Arc	*Threads*	*TurfCup™*	*Nozzle*	*Optional*
TS90TP	**XX**		**X**	**E**
TS90TP— TS90TP 25mm (1") Rotor with TruJectory	52—BSP	TC—TurfCup Option	1 2 3 4 5 6 7 8 9	E—Effluent Model
Example: A TS90 Series sprinkler with TruJectory, BSP threads, and with an #8 nozzle would be specified as: **TS90TP-52-8**				


For nearly 40 years the 690 series has set the standard for durability and reliability in commercial applications. Extremely rugged, the 690 Series is constructed of brass, stainless steel and engineering plastics for unmatched performance in the most demanding environments.
TORO

690 SERIES ROTORS

FEATURES & BENEFITS

Artificial Playing Surfaces

Radius and flow capabilities are perfect for cooling and rinsing artificial playing surfaces such as football fields

Electric Valve In Head Models

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

Fixed Arc Drives

Nine fixed arc drive assemblies ensure positive retention of the coverage area with no arc drift

Balanced Application Rate

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

Effluent Options Available

Check Valve Options Available

SPECIFICATIONS

Operational
- Radius: 26,5-33,0m
- Flow Rate: 193,0-311,2 L/min
- Operating Pressure Range: 5,5-10,3 Bar
- Pop-up height to nozzle: 20mm (¾")
- Inlet: NPT (1½")
- Check-O-Matic: Maintains 11,2m of elevation

Dimensions
- Body diameter: 254mm
- Body height: 405mm

Options Available
- Electric Valve-in-head Solenoid: 24VAC, 50/60Hz
  - Inrush: 60 Hz, 0.30 amps
  - Holding: 60 Hz, 0.20 amps

Warranty
- Three years

690 SERIES MODEL LIST

Model	Description
690	90° Part-circle sprinkler
691	180° Part-circle sprinkler
694	Full-circle sprinkler
696	2-speed (60°-120°) sprinkler
698	2-speed (180°-180°) sprinkler

690 SERIES PERFORMANCE DATA

Base Pressure			Nozzle Set 90				Nozzle Set 91				Nozzle Set 92			
					Prec. Rate				Prec. Rate				Prec. Rate	
Bar	kPa	Kg/cm2	Rad.	L/min	▲	■	Rad.	L/min	▲	■	Rad.	L/min	▲	■
5,5	550	5,61	26,5	193	19,0	16,5	29,3	232	18,7	16,2	30,5	280	20,8	18,0
6,9	690	7,04	27,4	216	19,9	17,2	30,5	278	20,7	17,9	32,9	311	19,9	17,2

Precipitation Rate Data in mm/HR
▲ *Precipitation rates are for triangular spacing, shown in millimeters per hour, calculated at 50% of diameter.*
■ *Precipitation rates are for square spacing, shown in millimeters per hour, calculated at 50% of diameter.*
All performance specifications are based on the stated working pressure available at the base of the sprinkler.
Radius shown in meters. Data based on 360°.

Specifying Information—690

69X-0X-XX-X

Arc			*Valve-In-Head Type*	*Nozzle*	*Pressure Regulation**
69X			**0X**	**XX**	**X**
0—90° 1—180°	4—Full-circle 6—Full-circle, 2-speed (60°–120°) 8—Full-circle, 2-speed (180°–180°)	A—150° B—165° C—195° D—210°	1—Normally Open Hydraulic 2—Check-O-Matic 6—Electric	90 91 92	8—80 psi 1—100 psi

Example: When specifying a 690 Series Sprinkler with a 180° arc, electric valve-in-head, #91 nozzle, and pressure regulation at 5,5 Bars (80 psi), you would specify: **692-06-918**

**Electric models only.*

ROTOR ACCESSORIES

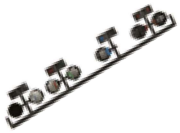
EFFLUENT WATER INDICATORS FOR 300 SERIES

89-7854
- Lavender cover for 300 Series Omni nozzle high-pop models
- Use with part no. 300-25 (Omni Nozzle)

89-7853
- Lavender cover for 300 Series Omni nozzle
- Use with part no. 300-15 (Omni Nozzle)

89-7889
- Lavender cap for 300 Series standard lawn and shrub models
- Use with nozzle assy (01, 02, 03, 63, 93)

NOZZLES



102-2633
- Standard T7 Nozzle Tree

102-1877
- Low Flow T7 Nozzle Tree

T5 Nozzle Tree Kit
102-7712
- 20 nozzle trees per bag

118-3832
- T5 Effluent Cap

INSTALLATION/ADJUSTMENT TOOLS

102-2024
- Adjustment tool for Mini 8

T5 Rotor Check Valve Kit
102-7714
- 20 valve seals per bag

102-6527
- T5, T7 and TS90 Rotor Adjustment Tool

995-51
- Pressure gauge Kit

995-50
- Pilot tube

995-49
- 0-200 psi pressure gauge hermetically sealed shake resistant-free

995-01
- Flow gauge

INSTALLATION/ADJUSTMENT TOOLS FOR 640 SERIES

995-08
- Valve removal tool for 640 Series models
- Designed for quick removal of valve assembly from body

995-33
- 1/16" Allen screwdriver

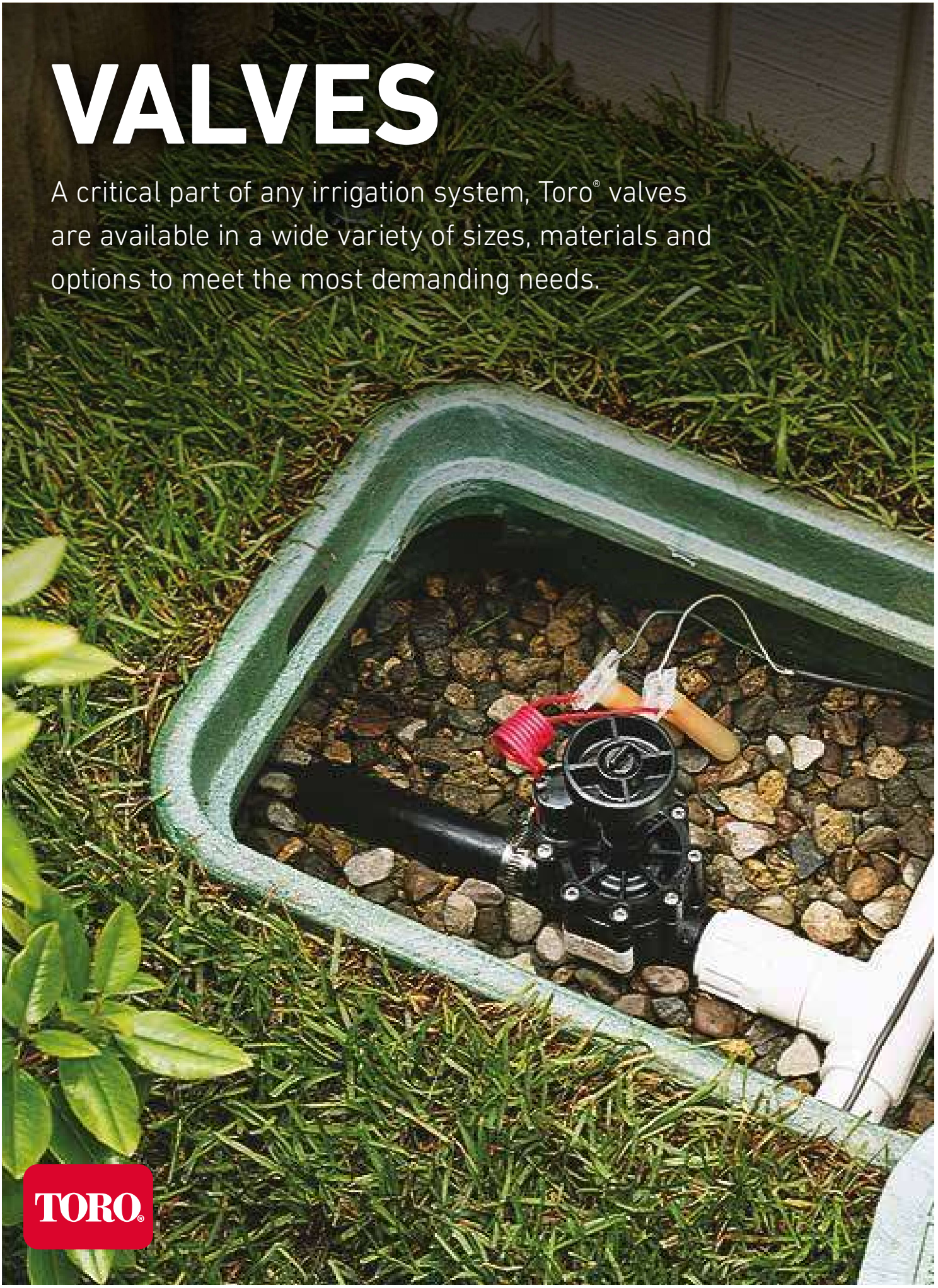
995-42
- Canister removal tool for 640 Series models

996-51
- Cap removal tool for 640 Series models

995-35
- Valve insertion tool for 640 Series models
- Designed for accurate one-step insertion of valve assembly and snap ring

VALVES

A critical part of any irrigation system, Toro® valves are available in a wide variety of sizes, materials and options to meet the most demanding needs.



VALVES

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V-SPACE

V-Space is the new range of valves from Toro, designed to complete the established variety of existent solutions, becoming the first option in terms of dimensions and flow rate.
The engaging design and the valuable hydraulic performances make this valve the ideal choice for residential use, unique in its category.

With V-Space you have more space for easy installation and Toro quality assurance.

FEATURES & BENEFITS

Flow Rate from 0,02 to 7,2 m^3/h (120 l/min)

Innovative features

Quick installation / maintenance

Optional flow control

Additional Features

- Female thread BSP 3/4" and 1"
- Nylon reinforced with fiberglass body and lid
- Double beaded diaphragm in thermoplastic rubber
- Slow, anti water hammer closing
- Internal manual bleed
- Immediate flow adjustment with universal key for 6 mm Allen pin
- Maze estraction in two step
- Quick disassembly with 4 screws

Low flow rates in the smallest footprint

SPECIFICATIONS

Operational
- Flow Range: 0,02- 7,2 m³/h
- Operating Pressure: 0,5-10 Bar
- Solenoid 24 Vac 50Hz
  - Inrush current, 0,34 amps
  - Holding current, 0,20 amps

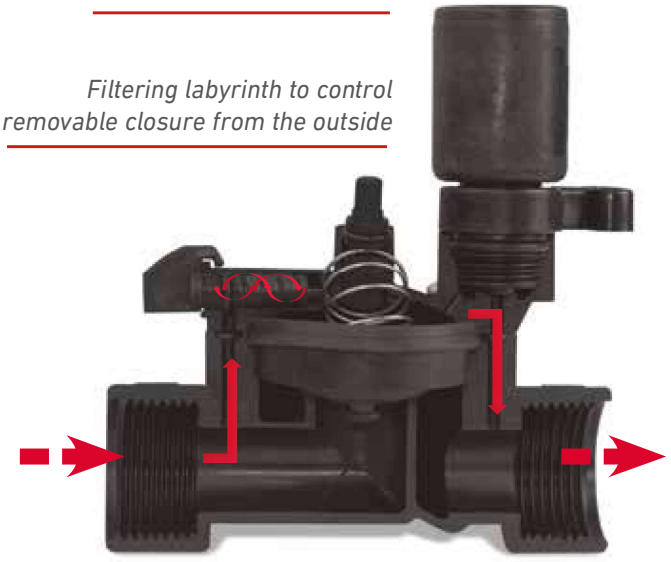
Dimensions
- Female Globe: 12,7 x 5,9 x 11,2 cm (H x W x L)

Warranty
- Two years

PRODUCT HIGHLIGHT

Optional flow control system with 6mm Allen pin

Filtering labyrinth to control removable closure from the outside



PRESSURE LOSS DATA (Bar)

m³/h	1,2	2,4	3,6	4,8	6,0	7,2
l/min	20	40	60	80	100	120
3/4" F	0,16	0,23	0,38	0,58	0,78	
1"F	0,16	0,23	0,38	0,5	0,75	1

V-SPACE SERIES MODEL LIST

Model	Description
EU-VSPACE-0.75-C	Valve female, ¾" with Flow Control
EU-VSPACE-0.75-S	Valve female, ¾"without Flow Control
EU-VSPACE-1-C	Valve female, 1" with Flow Control
EU-VSPACE-1-S	Valve female 1", without Flow Control

Specifying Information— V-SPACE Valve

EZP X-X-X-X		
Model	*Size*	*Flow Control*
EU-VSPACE	XX	X
V-SPACE Valve BSP	0,75—3/4" 1—1"	S—Without C—With
Example: A 1" V-SPACE Valve Female with flow control would be specified as: **EU-VSPACE-1-C**		

EZ-FLO® PLUS SERIES VALVES

The name says it all. Easy to install, and even easier to service, Toro® EZ-Flo® Plus Series valves are available in a comprehensive range of in-line or anti-siphon configurations that provide design and retrofit flexibility for any residential application. The EZ-Flo valves' heavy duty jar top designs make servicing fast and simple without the need for removing screws or fasteners. Constructed of corrosion and UV-resistant commercial grade PVC and glass-filled polypropylene, all EZ-Flo Series valves feature double-beaded chloramine- and ozone-resistant leak-proof diaphragms, manual external bleed screws, and fully encapsulated solenoids. Robust construction, reliable operation, and jar-top designs that make for tool-free access for servicing – it couldn't be easier.

FEATURES & BENEFITS

Jar-Top Design

No screws or fasteners means fast and easy servicing without the need for tools.

PVC, Glass-Filled Polypropylene and Stainless Steel Construction

Helps provide longer service life and leak protection in nearly any environment.

Double-beaded, Chloramine- and Ozone-Resistant Diaphragm

Ensures a consistent, leak-proof seal up to 10,3 Bar.

Effluent Options Available

DC Latching Solenoid Option

SPECIFICATIONS

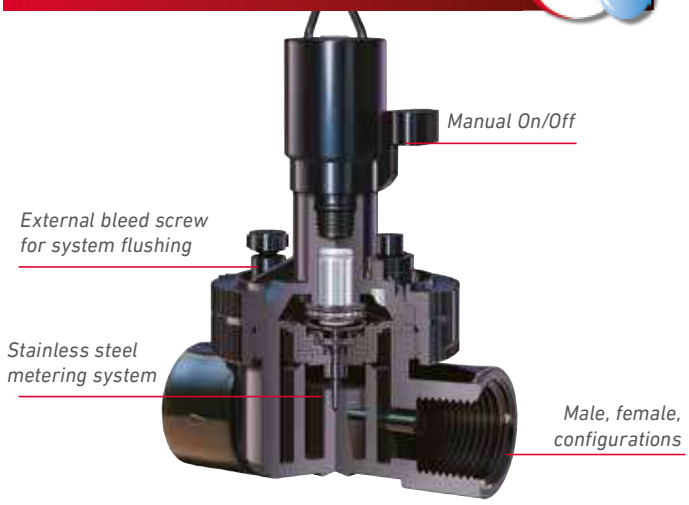
Operational
- Flow Range: 0,9-113,5 L/min
- Operating Pressure: 0,68-10,3 Bar
- Encapsulated solenoid with captured hex plunger, 24 Vac (118-5983):
  - Inrush current, 0.34 amps
  - Holding current, 0.2 amps

Dimensions
- Female Globe: 30 x 75 x 101mm (H x W x L)
- Male Globe: 130 x 75 x 140mm (H x W x L)

Available Parts & Accessories
- DC Latching Solenoid (DCLS-P)
- Effluent Solenoid Assembly and Tag (EFF-KIT-50HZ)

Warranty
- Two years

PRODUCT HIGHLIGHT



Flow Control
The precise flow control with ergonomic handle allows fine tuning of the downstream pressure to prevent high pressure situations that can lead to misting, poor nozzle performance, or system damage and premature wear.

PRESSURE LOSS DATA (measured in pressure loss, L/min)

Size	Model	L/min Flow					
		1	19	38	57	76	114
1"	In-line	0,14	0,24	0,28	0,31	0,32	0,43

EZ-FLO® PLUS JAR-TOP SERIES MODEL LIST

Model	Description
50HZ SOLENOIDS	
EZP-02-54	1", Male X Male, BSP without Flow Control
EZP-22-54	1", Male X Male, BSP, with Flow Control
EZP-03-54	1", Female, BSP without Flow Control
EZP-23-54	1", Female, BSP, with Flow Control
LESS SOLENOID	
EZP-02-64	1", Male X Male, BSP, without Flow Control Less Solenoid
EZP-03-64	1", Female, BSP, without Flow Control Less Solenoid
EZP-22-64	1", Male X Male, BSP, with Flow Control, Less Solenoid
DC-LATCHING SOLENOIDS	
EZP-02-94	1", Male X Male, BSP, DCLS-P, without Flow Control
EZP-22-94	1", Male X Male, BSP, DCLS-P, with Flow Control
EZP-23-94	1", Female, BSP, DCLS-P, with Flow Control
EZP-03-94	1", Female, BSP, DCLS-P, without Flow Control

Specifying Information—EZ-Flo® Plus Valve

EZP X-X-X-X				
Model	*Flow Control*	*Body Style*	*Solenoid*	*Size*
EZP	X	X	X	XX
EZP—EZ-Flo® Plus Valve BSP	0—Without 2—With	2—1" Male x Male BSP 3—1" Female BSP	5—50Hz Solenoid 6—Less Solenoid 9—DC-Latching Solenoid (DCLS-P)	4—1"
Example: A 1" EZ-Flo Plus Valve Female with flow control would be specified as: **EZP-23-54**				

TPV SERIES VALVES

The search for a full-featured, yet economically priced, residential and commercial valve is over thanks to Toro's 1" valve offering–the TPV Series. These full-featured, rugged, debris-resistant valves range in flow from 0,38 to 151 L/min, making them ideal for everything from drip to high-flow residential and light-commercial applications.

FEATURES & BENEFITS

Double-Beaded, Chloramine- and Ozone-Resistant Diaphragm

Ensures a consistent, leak-proof seal all the way up to 12,0 Bar

Multiple Body Styles

Choose from various styles to meet any installation requirement.

Flow Control

Fine tune the valve's downstream pressure to ensure optimal performance throughout the zone.

Robust Solenoid Design

Ensures reliable opening and closing.

Additional Features

- Patented Debris Bypass System (DBS™) technology
- Operates in low-flow and landscape drip applications when a filter is installed upstream
- Built with either AC or DC Latching Solenoids
- Manual operation without the use of a controller—internal and external bleed
- Captured hex/Phillips screws
- Encapsulated injection-molded solenoid with a captured plunger
- Removable flow control handle to ensure vandal-resistance
- Self-aligning bonnet permits fast and easy servicing

Effluent Options Available

DC Latching Solenoid Option

SPECIFICATIONS

Operational
- Flow Range: 0,38-151,4 L/min
- Operating Pressure: 0,7-12,0 Bar
- Solenoid: 24 Vac (50 Hz) Standard (P/N 118-5983)
  - Inrush: 0.34 amps
  - Holding: 0.2 amps

Dimensions
- 130 x 70 x 127mm (H x W x L)

Options Available
- EFF-Kit-50Hz - Effluent Water Solenoid Assembly and Watering Tag
- DCLS-P- DC Latching Solenoid Assembly

Warranty
- Five years

PRODUCT HIGHLIGHT

Flow Control
The precise flow control with ergonomic handle allows fine tuning of the downstream pressure to prevent high pressure situations that can lead to misting, poor nozzle performance, or system damage and premature wear.

TPV PRESSURE LOSS DATA

Flow Rate (L/min)	0.38	0,94	18,9	37,8	56,8	75,7	113,6	151,4	189,3
Pressure Loss (Bar)	0,14	0,14	0,24	0,.27	0,21	0,23	0,48	0,90	1,34

TPV SERIES VALVES MODEL LIST

Model	Description
AC SOLENOIDS	
TPV100BSP	TPV 1" Female x Female, 50Hz/BSP, without Flow Control
TPVF100BSP	TPV 1" Female x Female, 50Hz/BSP, with Flow Control
TPV100MMBSP	TPV 1" Male x Male, 50Hz/BSP, without Flow Control
TPVF100MMBSP	TPV1" Male x Male, 50Hz/BSP, with Flow Control
DC-LATCHING SOLENOIDS	
TPVF100BSPDC	TPV 1" FxF, Electric Globe, with Flow Control, BSP, DCLS-P
TPV100BSPDC	TPV 1" FxF, Electric Globe, without Flow Control, BSP, DCLS-P
TPVF100MMBSPDC	TPV 1" MxM, Electric Globe, with Flow Control BSP, DCLS-P
TPV100MMBSPDC	TPV 1" MxM, Electric Globe, without Flow Control BSP, DCLS-P

Specifying Information—TPV Series Valves

TPVX100XXXX					
Model	*Flow Control*	*Size*	*Body Style*	*Threads, Solenoid*	*Optional*
TPV	**X**	**100**	**XX**	**XXX**	**XX**
TPV—TPV Valve	F—With Flow Control	100— 1"	MM—Male X Male	BSP- BSP Threads, 50Hz Solenoid	DC—DCLS-P Latching Solenoid
Example: A 1" TPV Valve Male with flow control would be specified as: **TPV100MMBSP**					

264 SERIES VALVES

Heavy duty. Hardworking. The Toro® 264 Series Valves are made to withstand whatever a large residential or light commercial application can dish out

Additional Features

- Self-cleaning, stainless steel metering pin
- External manual bleed
- Low in-rush solenoid
- Manual flow control adjustable to zero flow
- Single-piece rubber diaphragm

FEATURES & BENEFITS

Heavy-Duty Toro Solenoid

Provides dependable operation and long life.

Single-Piece Rubber Diaphragm

For reliable, leak-tight closing.

Tough, Glass-Filled Nylon Bonnet and ABS Body

Durable construction that provides years of reliable operation.

Effluent Options Available

SPECIFICATIONS

Operational
- Recommended flow range: 0,9-56,7 L/min
- Operating Pressure: 0,7-10,3 Bar
- Solenoid: 24 VAC-50Hz:
  - Inrush: 0.25 amps, 6.00 VA;
  - Holding: 0.19 amps, 4.56 VA

Options Available
- 89-7855 - Effluent Water Valve Flow Control Knob

Dimensions
- 75 x 100mm (H x W)

Warranty
- Two years

WATER MANAGEMENT HIGHLIGHT

External Bleed

The external bleed allows perfect manual operation of the valve without electrically charging the solenoid. System flushing can also be accomplished using the external bleed with debris and other material being flushed out of the port.

250/260 SERIES MODEL LIST

Model	Description
264-06-03	¾" Male x Male, Electric, without Flow Control

264 SERIES PRESSURE LOSS DATA

Size	Model	L/min Flow							
		2	25	50	75	100	125	150	175
¾"	Electric	<1.0	0.1	0.4	0.7				

Specifying Information—264 Series Valves

264-X6-0X		
Model	*Body Style*	*Size*
264	**X6**	**0X**
264—264 Valve	MM—Male X Male	3—¾"

P150 SERIES VALVES

1½" and 2" in-line globe/angle valves for light commercial applications. The P-150 Series valves are the "value" work horses of plastic valves.

Additional Features

- Non-rising, manual flow control handle; adjustable to zero flow
- Manual internal bleed
- No external tubing for either electric or pressure regulating models
- Positive O-ring seal on inlet plug

FEATURES & BENEFITS

Heavy-duty glass-filled nylon (GFN) and stainless-steel construction

Precise pressure control option with compact EZReg® dial-design

Serviceable under pressure - no need to shut down system

Globe/Angle configuration

Rated at 10 Bar with flows from 20 to 600 l/min

Filter-controlled Water

To resist contamination of solenoid port. Filter serviceable from top of valve.

Pressure regulates in electric and manual modes

Serviceable under pressure

DC Latching Solenoid Option

Pressure Regulation

SPECIFICATIONS

Operational

- Flow range: 18,9-567,8 L/min
- Pressure range: 1,4-10,3 Bar
- Solenoid: 50Hz (24 VAC)
  - Inrush volt-amp: 50Hz (24 VAC) - 7,2 VA
  - Inrush current: 0.34 amps
- Holding volt-amps: 50Hz (24 VAC) - 4,8 VA
- Holding current: .2 amps
- Body styles - Globe/angle valve: 1½" and 2" BSP female threads

Options Available

- EZR-30 - EZReg, 0,3-2,1 Bar Regulator Module
- EZR-100 - EZReg, 0,3-7,0 Bar Regulator Module
- EFF-KIT-50Hz - Effluent Water (Lavender) Solenoid Assembly (24 VAC, 50 Hz) and Warning Tag
- 118-5983 - 24 VAC Solenoid Assembly, 50 Hz, 457mm Leads, Captive Plunger
- DCLS-P - Potted DC Latching Solenoid Assembly

Dimensions

- 1½": 184mm x 92mm (H x W)
- 2": 241mm x 156mm (H x W)

Warranty

- Five years

PRODUCT HIGHLIGHT

Pressure Regulator

The EZReg® module can regulate with flows of only 19 l/min (0,3 Bar) with a 25mm (1") valve and it only requires 0,7 Bar differential to operate.
The pressure regulator can be easily and quickly installed—even under pressure, with no danger of water geysers.

P-150 SERIES PLASTIC VALVE MODEL LIST

Model	Description
EU-P150-23-56	Electric, Globe/Angle, 1½" BSP Plastic Valve, 50 Hz Solenoid
EU-P150-23-58	Electric, Globe/Angle, 2" BSP Plastic Valve, 50 Hz Solenoid
EU-P150-23-96	Electric, Globe/Angle, 1½" BSP Plastic Valve, DCLS-P Solenoid
EU-P150-23-98	Electric, Globe/Angle, 2" BSP Plastic Valve, DCLS-P Solenoid

Note: all w/o Nozzle

P-150 SERIES FRICTION LOSS DATA—L/MIN FLOW

Size	Configuration	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600
1,5"	Globe Angle	0,22 0,21	0,21 0,21	0,21 0,22	0,17 0,15	0,18 0,13	0,20 0,13	0,31 0,19	0,46 0,26							
2"	Globe Angle					0,22 0,18	0,22 0,17	0,20 0,14	0,19 0,13	0,26 0,16	0,34 0,24	0,42 0,24	0,42 0,26	0,52 0,32	0,62 0,37	0,74 0,43

Flow rates are recommended not to exceed 0,35 Bar loss. Values shown in Bar.
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.*

Specifying Information—TPV Series Valves

P150-23-X-X			
Model	*Configuration*	*Solenoid*	*Size*
P150	**23**	**X**	**X**
P150—P-150 Series Plastic Valve	23—BSP, Electric	5—50 Hz Solenoid 9—DCLS-P	6—1½" 8—2"
Example: A 50 mm (2") P-150 Series Plastic Valve with BSP threads and 50 Hz solenoid, would be specified as: **P150–23–58**			

252 SERIES VALVES

Toro® 252 Series valves are built tough and ready to withstand the harshest conditions in any commercial application. With several configurations to choose from, 252 Series valves are available in electric or hydraulic, 1,5" and 2" globe/angle models with flow control. Each valve diaphragm is a single piece and made with fabric-reinforced rubber for long-term tear and stretch tolerance. All models are female inlet/outlet BSP and their durable plastic construction makes them a cost effective option for commercial applications.

Additional Features

- 60cm lead solenoid wires on 1½" and 2" models
- Self-cleaning, stainless steel metering pin (electric)
- Tough, glass-filled bonnet
- Single-piece diaphragm

FEATURES & BENEFITS

Heavy-Duty Toro Solenoid
Provides dependable operation and long life.

Fabric-Reinforced Rubber Diaphragm
Provides long-term resistance to tears and stretching.

Flow Control Handle
Adjusts the flow of each zone on a system.

Robust ABS Body Material and Durable Glass-Filled Cap
Ensures the valve can withstand high pressures and flows without compromise.

Effluent Options Available

SPECIFICATIONS

Operational
- Recommended Flow Range:
  - 1½": 94,6-264,9 L/min (25-70 GPM)
  - 2": 227,1-340,6 L/min (60-90 GPM)
- Operating Pressure: 1,3-10,3 Bar
- Solenoid: 24 VAC, 50Hz
  - Inrush: 0.30 amps, 7,20 VA
  - Holding: 0.20 amps, 4,80 VA

Dimensions
- 1½": 197 x 152mm (H x W)
- 2": 241 x 178mm (H x W)

Options Available
- 89-7855 - Effluent Water Indicator Flow Control Knob

Warranty
- Two years

PRODUCT HIGHLIGHT

External Bleed
The external bleed allows manual operation of the valve without electrically charging the solenoid. System flushing can also be accomplished using the external bleed with debris and other material being flushed out of the port.

Combination Globe and Angle Valve
The all-in-one globe and angle configuration allows flexibility in design and installation. Angle installations allow for less pressure loss across the piping system, while globe configurations are standard in many irrigation systems.

252 SERIES FRICTION LOSS DATA

Size	Type	Config.	L/min Flow													
			25	50	75	100	125	150	175	200	250	300	400	500	600	700
1½"	Hydraulic	Globe Angle				0,07 0,07	0,09 0,08	0,14 0,10	0,18 0,10	0,23 0,13	0,34 0,25	0,44 0,34	0,78 0,56	1,06 0,93		
2"	Hydraulic	Globe Angle									0,14 0,07	0,17 0,13	0,27 0,23	0,43 0,30	0,61 0,37	0,79 0,52
1½"	Electric	Globe Angle				0,10 0,09	0,11 0,08	0,14 0,10	0,18 0,12	0,23 0,16	0,32 0,21	0,47 0,33	0,84 0,52	1,20 0,70		
2"	Electric	Globe Angle									0,14 0,07	0,17 0,13	0,28 0,23	0,45 0,30	0,61 0,37	0,79 0,52

Note: *For optimum performance when designing a system, be sure to calculate total friction loss to ensure sufficient downstream pressure. For optimum regulation performance, size regulating valves toward the higher flow ranges. Flow rates are recommended not to exceed 0,3 Bar loss.*
= Debris-resistant models

252 SERIES MODEL LIST

Model	Description
FEMALE BSP GLOBE/ANGLE WITH FLOW CONTROL	
252-26-56	1 1/2"
252-26-58	2"
252-21-56	1 1/2" Normally Open
252-21-58	2" Normally Open

Specifying Information — 252 Series Valves

252-XX-5X			
Model	*Activation Type*	*Thread Type*	*Size*
252	**XX**		**X**
252—252 Series Valve	21—Normally Open Hydraulic 26—1½" or 2" Electric	5 - BSP	6—1½" 8—2"
Example: A 1½" electric 252 Series Valve, would be specified as: **252-26-56**			

Note: *DC Latching Solenoid not available.*

P-220 SERIES VALVES

For proven reliability in the field, the Toro® P-220 Series valves deliver. Constructed of heavy-duty, glass-filled nylon material, these valves are ready to consistently withstand pressures up to 15,1 Bar.

Additional Features

- No external tubing for either pressure-regulating model
- Self-aligning bonnet to ensure correct installation
- Self-cleaning, stainless steel metering rod
- Low-flow capability down to 18,9 L/min with EZReg®
- EPDM diaphragm and seat seal

FEATURES & BENEFITS

Durable Glass-Filled Nylon Construction
Ensures the P-220 can operate at pressures up to 15,1 Bar.

Precise Pressure Control Option
Compact EZReg® dial-design technology can be factory or field installed and does not require the removal of the solenoid.

Standard Schrader Valve at Outlet
Simple verification of downstream pressure.

Optional Spike Guard™ Solenoid
Reduces wire size requirements, allows twice as many valves to run simultaneously on a transformer, and lowers power costs with a lightning rating exceeding 20,000 volts.

Filter Screen On 2" and 3" Models
Allows for upstream filtration of water to ensure no clogging occurs inside the valve.

Flow Control Handle
Adjusts the flow of each zone on a system.

Effluent Options Available

Pressure Regulation

DC Latching Solenoid Option

SPECIFICATIONS

Operational

- Flow Range:
  - 1": 18,9-132,5 L/min
  - 1 ½": 113,6-416,4 L/min
  - 2": 302,8-681,4 L/min
  - 3": 567,8-1135,6 L/min
- Operating Pressure
  - 1" & 1 ½" Models: 0,7-15,0 Bar
  - 2" & 3" Models: 1,3-15,0 Bar
- Pressure Regulating:
  - Outlet (EZR-30): 0,3-2,0 Bar ± 3
  - Outlet (EZR-100): 0,3-7,0 Bar ± 3
  - Minimum flow requirement of 19 l/min
- Minimum Pressure Differential (between inlet and outlet) for Pressure Regulation: 0,7 Bar
- Body Styles:
  - Globe/Angle – 1", 1 ½", 2" & 3" female threads
- 118-5983 Solenoid: 24 Vac(50Hz)
  -Inrush: 50 Hz, 0.34 amps
  -Holding: 50 Hz, 0.2 amps

Options Available

- EZR-30 - EZReg®, 0,3-2,1 Bar Regulator Module
- EZR-100 - EZReg®, 0,3-7,0 Bar Regulator Module
- EFF-KIT-50HZ - Effluent Water Solenoid Assembly, 24 Vac, 50 Hz; and Warning Tag
- DCLS-P - Potted DC Latching Solenoid Assembly
- 118-5983 - 24 VAC Solenoid Assembly, 50 Hz, 457mm Leads, Captive Plunger

Dimensions

- 1": 171 x 92mm (H x W)
- 1½": 184 x 92mm (H x W)
- 2": 241 x 156mm (H x W)
- 3": 273 x 156mm (H x W)

Warranty

- Five years

PRODUCT HIGHLIGHT

Pressure Regulator
The EZReg® module is capable of regulating outlet pressure with flows down to just 19 l/min and requires a pressure differential between inlet and outlet of at least 0.7 bar. Pressure regulator easy and quick to install, even under pressure, without danger of water hammer.

P-220 SERIES MODEL LIST

Model	Description
WITH AC SOLENOID	
P220-23-54	Electric, In-Line 1" BSP Plastic Valve, 50 Hz Solenoid
P220-23-56	Electric, In-Line 1½" BSP Plastic Valve, 50 Hz Solenoid
P220-23-58	Electric, In-Line 2" BSP Plastic Valve, 50 Hz Solenoid
P220-23-50	Electric, Angle 3" BSP Plastic Valve, 50 Hz Solenoid
WITH D.C. LATCHING SOLENOID	
P220-23-94	Electric, In-Line 1" BSP Plastic, with DCLS-P latching solenoid pre-installed
P220-23-96	Electric, In-Line 1½" BSP Plastic, with DCLS-P latching solenoid pre-installed
P220-23-98	Electric, In-Line 2" BSP Plastic, with DCLS-P latching solenoid pre-installed
P220-23-90	Electric, Angle 3" BSP Plastic, with DCLS-P latching solenoid pre-installed

P-220 SERIES PRESSURE LOSS DATA

Size	Config.	L/min Flow																					
		40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600	700	800	900	1000	1100
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													
1 ½"	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									
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					
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 Pressure Loss to ensure sufficient downstream pressure. For optimum regulation performance, size regulating valves toward the higher flow ranges. Flow rates are recommended not to exceed 5 psi loss.*

Specifying Information—P-220 Series Valves

P220-2X-XX			
Model	*Activation Type*	*Solenoid*	*Size*
P220	**2X**	**X**	**X**
P220—P-220 Series Plastic Valve	23—BSP	5—50Hz Solenoid 9—DC Latching Solenoid	4—1" 6—1½" 8—2" 0—3"
Example: A 1" P-220 Series plastic electric valve with AC Solenoid would be specified as: **P220-23-54**			

P-220S SCRUBBER SERIES VALVES

True dirty water irrigation valves, the Toro® P-220S Scrubber Series valves are built to handle chlorine, chloramine, and other chemicals found in reclaimed and non-potable water systems. Constructed of heavy duty glass-filled nylon and EPDM rubber components, the P-220S valves feature Toro's patented ACT™ (Active Cleansing Technology), which helps prevent the build-up of sand, algae, and other organic materials that may inhibit water from metering properly through the valve.

Additional Features

- Internal and external bleeds
- No external tubing for either pressure-regulating model
- Standard, built-in Schrader-type valve for downstream pressure verification
- Flow control independent of solenoid
- Self-aligning bonnet to ensure correct installation
- Self-cleaning stainless steel metering rod

FEATURES & BENEFITS

Multiple Design Configurations

Available in 1", 1 1/2", 2", and 3" inlet/outlet designs, all of which allow the flexibility of globe or angle orientation.

Durable Glass-Filled Nylon Construction

Robustly built to operate at pressures of up to 15,1 Bar

ACT™ (Active Cleansing Technology)

The industry's first active scrubber valve cleans continuously, whereas competing valves only clean upon their opening and closing.

Fabric-reinforced EPDM Diaphragm and EPDM Seat Seal

Designed to work in virtually all water applications.

Rugged Internal Plastic and Stainless Steel Components

The ACT scrubber turbine, nut and metering system are constructed of marine and aerospace-grade plastics and metals that make them resistant to chlorine- and ozone-treated water.

Available with Precise Pressure Regulation

Compact EZReg® dial-design technology ensures precise downstream pressure for optimized sprinkler head performance.

Completely Serviceable and Retrofittable

The ACT scrubber diaphragm assembly can be replaced, and can also be retrofit into previously installed P-220 models.

Effluent Options Available

Pressure Regulation

DC Latching Solenoid Option

SPECIFICATIONS

Operational

- Flow Range:
  - 1": 19-151 L/min
  - 1½": 114-416 L/min
  - 2": 302,8-681,3 L/min
  - 3": 567,8-1135,6 L/min
- Operating Pressure
  - 1" & 1 ½" Models: 0,7-15,1 Bar
  - 2" & 3" Models: 1,4-15,1 Bar
- Pressure Regulating:
  - Outlet (EZR-30): 0,3-2,1 Bar ±0,2
  - Outlet (EZR-100): 0,3-7,0 Bar ± 0,2
  - Minimum flow requirement of 19 l/min
- Minimum Pressure Differential (between inlet and outlet) for Pressure Regulation: 0,7 Bar
- Body Styles:
  - Globe/Angle with female threads
- 118-5983 Solenoid: 24 Vac (50 Hz) Standard
  - Inrush: 50 Hz: 0.34 amps
  - Holding: 50 Hz: 0.2 amps

Options Available

- EZR-30 - EZReg®, 0,3-2,1 Bar Regulator Module
- EZR-100 - EZReg®, 0,3-7,0 Bar Regulator Module
- EFF-KIT-50HZ - Effluent Water Solenoid Assembly, 24 Vac, 50 Hz; and Warning Tag
- DCLS-P - Potted DC Latching Solenoid Assembly
- 118-5983 - 24 VAC Solenoid Assembly, 50 Hz, 457mm Leads, Captive Plunger
- SGS -12 - Spike GuardTM Solenoid: 50/60 Hz (24 VAC)

Dimensions

- 1": 171 x 92mm (H x W)
- 1½": 184 x 92mm (H x W)
- 2": 241 x 156mm (H x W)
- 3": 273 x 156mm (H x W)

Warranty

- Five years

PRODUCT HIGHLIGHT

The P-220S Scrubber Series Valves Feature Toro's Patented ACT™ (Active Cleansing Technology) system

The ACT system's durable turbine is in constant rotation, which in turn keeps the metering and filtration area free of dirt and algae build-up. The turbine is constructed of materials resistant to chlorine, chloramines, and ozone, thereby keeping the valve operating at peak performance.

P-220S SCRUBBER SERIES MODEL LIST

Model	Description
P220S-23-54	1" BSP with ACT™ System
P220S-23-56	1 ½" BSP with ACT™ System
P220S-23-58	2" BSP with ACT™ System
P220S-23-50	3" BSP with ACT™ System
P220S-23-94	1" BSP with ACT™ System, DC Latching Solenoid
P220S-23-96	1 ½" BSP with ACT™ System, DC Latching Solenoid
P220S-23-98	2" BSP with ACT™ System, DC Latching Solenoid
P220S-23-90	3" BSP with ACT™ System, DC Latching Solenoid
P220S-KIT-08	2" Scrubber diaphragm assembly kit
P220S-KIT-00	3" Scrubber diaphragm assembly kit

P-220S SCRUBBER VALVES

Size	Config.	L/min Flow																					
		40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600	700	800	900	1000	1100
1"	Globe Angle	0,32 0,29	0,33 0,32	0,21 0,18	0,42 0,38	0,74 0,65																	
1½"	Globe Angle			0,08 0,07	0,12 0,11	0,19 0,18	0,29 0,26	0,44 0,36	0,60 0,48	0,77 0,64	0,97 0,81	1,19 0,99	1,41 1,20										
2"	Globe Angle									0,27 0,19	0,30 0,25	0,30 0,39	0,45 0,39	0,54 0,44	0,64 0,51	0,69 0,62	0,84 0,68						
3"	Globe Angle																0,18 0,14	0,23 0,18	0,35 0,32	0,41 0,30	0,46 0,38	0,53 0,48	0,76 0,67

Flow rates are recommended not to exceed 0,35 Bar loss. Values shown in Bar.

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.

Specifying Information—P-220S Scrubber Series Valves

P220S-2X-XX			
Model	*Activation Type*	*Solenoid*	*Size*
P220S	**2X**	**X**	**X**
P220S—P-220S Scrubber Series Plastic Valve	3-BSP, Electric	5—50Hz Solenoid 9—DC Latching Solenoid	4—1" 6—1 ½" 8—2" 0—3"
Example: A 2" P-220S Series plastic electric DC, would be specified as: **P220S-23-98**			

QUICK COUPLER SERIES

Whether for hand watering the hot spots, fertilizer wash in, or washing down equipment, Toro® Quick Coupler Valves and Keys are designed for everyday use in environments that require quick remote access to the mainline water supply.

FEATURES & BENEFITS

Stainless Steel And Brass Construction

Quick Couplers are also available with metal or vinyl covers in locking or non-locking options.

Multiple Models To Choose From

There are a variety of one-piece and two-piece models in 3/4" and 1" sizes, including ACME thread key connections.

Eliminate Tangled Hoses

The 360-degree hose swivel provides movement without hose tangling.

QUICK COUPLER SERIES PRESSURE LOSS DATA

Model Number	L/min Flow										
	35	50	75	100	125	150	175	225	275	325	375
075-SLSC	0,1	0,2	0,4	0,6							
100-2SLLC			0,1	0,2	0,3	0,5					

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. Flow rates are recommended not to exceed 0,3 bar loss.

3/4" QUICK COUPLING KEYS AND ACCESSORIES MODEL LIST

Model	Description
075-SLSC	One-piece, ¾" Single Lug, Quick Coupler w/Standard Metal Cover
075-SLK	¾" Single Lug Key, with ½" Top Pipe Thread Outlet
075-75MHS	¾" NPT x ¾" MHT Hose Swivel

1" QUICK COUPLING VALVES AND ACCESSORIES MODEL LIST

Model	Description
100-SLSC	One-piece, 1" Single Lug, Quick Coupler w/Metal Cover
100-SLVC	One-piece, 1" Single Lug, Quick Coupler w/Vinyl Cover
100-SLVLC	One-piece, 1" Single Lug, Quick Coupler w/Vinyl Locking Cover
100-2SLVC	Two-piece, 1" Single Lug, Quick Coupler w/Vinyl Cover
100-ATLVC	One-piece, 1" Quick Coupler w/Acme Thread and Lavender Locking Vinyl Cover
100-2SLLVC	Two-piece, 1" Single Lug Quick Coupler w/Lavender Vinyl Locking Cover
100-AK	1" Acme Thread, 1" Top Pipe Thread Outlet
100-SLK	Single Lug Key, 1" Top Pipe Thread Outlet w/Internal ¾" NPT Threads
075-MHS	1" NPT x ¾" MHT Hose Swivel
100-MHS	1" NPT x 1" MHT Hose Swivel
LK	Key for Locking Cap

Specifying Information—Quick Couplers

XXX-XXX-XXX		
Size	*Configuration*	*Cover*
XXX	XXX	XXX
075—¾" 100—1"	SL—One-piece, Single Lug 2SL—Two-piece, Single Lug AT—ACME Thread	SC—Standard Cover VC—Vinyl Cover LVC—Effluent Vinyl Cover VLC—Vinyl Locking Cover
Example: A 1" one-piece, single lug Quick Coupler with a vinyl locking cover, would be specified as: **100-SLVLC**		

VALVE ACCESSORIES

SOLENOIDS

DCLS-P
- Potted DC Latching Solenoid for Toro valves
- Compatible with EZ-Flo Plus, TPV, P-200, P-220S Scrubber and 220 Brass Series valves.

118-5983
- 24 Vac Solenoid assembly for EZ-Flo Plus, TPV, P-150, P-220, P-220S Scrubber, and 220 Brass Series valves.
- Captive hex plunger
- 18" leads

SGS
- 24 Vac Spike Guard Solenoid assembly for EZ-Flo Plus, TPV, P-150,P-220, P-220S Scrubber, and 220 Brass Series valves.
- 20,000 volts lightning rating
- Inrush 0.23 amps/Holding 0.135 amps

LWS
- 19 Vac Low Wattage Solenoid assembly for EZ-Flo Plus, TPV, P-150,P-220, P-220S Scrubber, and 220 Brass Series valves.
- Inrush 0.2 amps/ Holding 0.1 amps

EFFLUENT WATER INDICATORS

EFF-KIT-50HZ
- Lavender-colored 118-5983 Solenoid assembly for EZ-Flo Plus, TPV, P-220, P-220S Scrubber, and 220 Brass Series valves.
- Lavender-colored Effluent warning tag

RWSG-Kit
- Effluent tag and Solenoid sticker

UNIVERSAL VALVE BOXES*

EU-TUCS Toro Universal valve box small circular

EU-TUCM Toro Universal valve box medium circular

EU-TURS Toro Universal valve box standard rectangular

EU-TURJ Toro Universal valve box jumbo rectangular

*For details see pag. 153

EZREG® PRESSURE/INSTALLATION REGULATOR & EHC ACCESSORIES

EZR-30 and EZR-100
- Pressure regulator module for use with P-150,P-220, P-220S Scrubber and 220 Brass Series Valves
- EZR-30: 0,3–2,0Bar
- EZR-100: 0,3-7,0Bar

995-51
- Pressure gauge kit

995-49
- 0-200 psi pressure gauge
- Hermetically sealed shock resistant face

850-00
- Valve cover

995-14
- Supply screen fitting

995-02
- Flushing adaptor

CONTROLLERS

From standard to advanced irrigation control, Toro® irrigation controllers meet the needs of the most demanding users. Innovative sensing and wireless communication capabilities give users even more control over water savings and maintaining healthy landscapes.

CONTROLLERS

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TEMPUS®DC SERIES

Thanks to the advanced features, the new Tempus®DC is the ideal controller to manage irrigation in areas without electricity. Bluetooth connectivity is integrated to allow intuitive programming thanks to the new Toro App mobile.Tempus®DC is available in two versions: with and without LCD screen.

FEATURES & BENEFITS

100% Waterproof
IP68, the TempusDC can be installed directly in the valve box.

UV resistant palstics

Battery operated with a choice of 4 batteries AAA 1.5V or 1 battery 9V for both models[1]
Season autonomy

Input for rain sensor
Thanks this option you will save water for an intelligent and eco-friendly use.

Large display for LCD model: 4,5x6,0 cm
The practical display is the largest on the market for this product line: this will allow you to program the controller more easily

Water Budget from 0% to 200%
The watering times can be easily set up for the whole year and then adjusted by percentage from 0% to 200% with increments of 10%: a real intelligent programming thanks to the easy adjustment of the seasonal irrigation.

Max Pressure 6.0 bar

Possibility to connect Master Valve

Additional Features

- ✔ 1, 2, 4, 6 stations
- ✔ 4 programs
- ✔ 3 start times for program
- ✔ Permanent programs retention in memory in case of battery replacement
- ✔ Internal clock maintained in case of power failure
- ✔ Installation on top of the valve thanks to a dedicated bracket (in option)

Rain Sensor Compatible

SPECIFICATIONS

Technical

- Watering time from 1 minute to 8 hours (1 min increase)
- Flexible irrigation programming:
  - Daily
  - Weekly
  - Irrigation on even and odd days
  - Irrigation at 1 to 31 day intervals
- Stacking Program
- Automatic, semi-automatic and manual start
- Permanent memory
- Rain delay programmable from 1 up to 15 days or "permanent»

Electrical

- Rated IP68, 100% Waterproof
- Operating temperature: -10°C + 50°C
- Output 9 VDC latching
- Maximum distance of 300 m between controller and DCL latching solenoid (cable section 0,75mm^2)

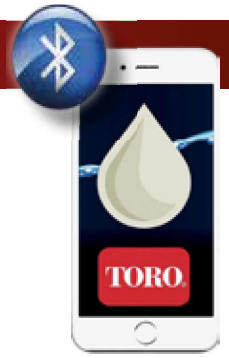
Dimensiones

- TEMPUS™ DC without LCD: 12cm x 11,5cm x 5 cm (W x H x D)
- TEMPUS™ DC with LCD: 10,5 cm x 15,5cm x 5 cm (W x H x D)
- Weight:
  - TEMPUS™ DC without LDC: 250 gr.
  - TEMPUS™ DC with LCD: 260 gr.

Warranty

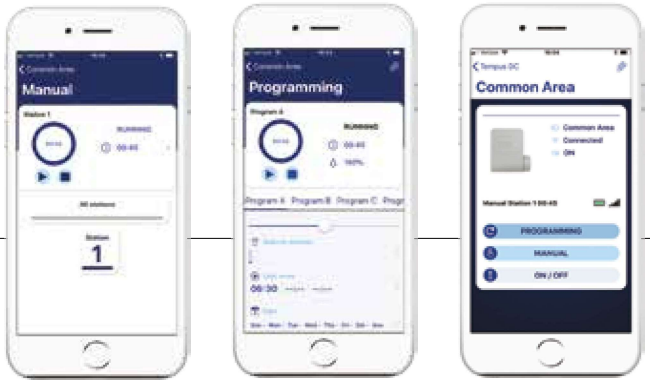
- 2 Years

PRODUCT HIGHLIGHTS



EASY TO PROGRAM

Bluetooth connectivity is integrated to allow intuitive programming from your device thanks to the new TempusDC App.



Download on the App Store GET IT ON Google Play

TEMPUS™ DC SERIES MODEL LIST

Model	Description
TEMP-1-DC	Tempus DC, battery-powered controller, 1 station with bluetooth, no LCD
TEMP-2-DC	Tempus DC, battery-powered controller, 2 stations with bluetooth, no LCD
TEMP-4-DC	Tempus DC, battery-powered controller, 4 stations with bluetooth, no LCD
TEMP-6-DC	Tempus DC, battery-powered controller, 6 stations with bluetooth, no LCD
TEMP-1-DC-L	Tempus DC, battery-powered controller, 1 station with bluetooth and LCD
TEMP-2-DC-L	Tempus DC, battery-powered controller, 2 stations with bluetooth and LCD
TEMP-4-DC-L	Tempus DC, battery-powered controller, 4 stations with bluetooth and LCD
TEMP-6-DC-L	Tempus DC, battery-powered controller, 6 stations with bluetooth and LCD

Specifying Information—TEMPUS DC

TEMP-X-DC-X			
Description	*Stations*	*Version*	*Screen*
TEMP	X	**DC**	X
TEMP—Tempus Controller	1—1 Station 2—2 Stations 4—4 Stations 6-6 Stations	DC- 9 VDC latching solenoid	L - LCD Display
Example: Tempus Controller 4 stations with LCD display would be specified: **TEMP-4-DC-L**			

ELECTRONIC TAP TIMER

A durable, battery-operated electronic tap timer from Toro. With multiple programs and an efficient, built-in solenoid and diaphragm valve, the Toro tap timer is a dependable and convenient solution for hose-end irrigation control.

FEATURES & BENEFITS

Battery-operated
One 9-volt alkaline battery (not included) provides sufficient power to last an irrigation season

Weather-resistant controller, tap connected controller
¾" or 1" connection with built-in valve

2-minute program back-up
When batteries are temporarily removed for replacement

Additional Features

- ✔ Large, easy to read LCD
- ✔ Convenient 24-hour clock
- ✔ 7 day "Select-A-Day" calendar
- ✔ Up to 8 start times per day
- ✔ Automatic or manual functions
- ✔ Manual count-down mode (from 8 hours to 5 minutes)
- ✔ ON/OFF button
- ✔ Summer/Winter key used for "daylight savings" adjustment
- ✔ 15 different preset watering day combinations
- ✔ Bushing contains removable, cleanable filter
- ✔ 2 Minute program back up when batteries are temporarily removed
- ✔ Battery life indicator

SPECIFICATIONS

Technical

- Three scheduling choices by program:
  –Seven-day calendar
  –1 to 7-day interval
  –Odd/even with 365-day calendar and 31st day exclusion
- Station run times from one minute to four hours in one-minute increments
- Seasonal adjust by month from 0-200% in 10% increments
- Manual operation by station or program
- Self-diagnostic circuit breaker skips shorted stations
- Up to five-year program retention with on-board coin battery saves time of day and all programming features
- Vandal proof lock out feature

Electrical

- ¾" or 1" tap connection in single model
- One 9V Alkaline battery required (not included)
- Typical battery life of one season (6 months) based on normal use
- Recommended flow rate at 2,0 Bar: 15,1 L/min
- Maximum flow rate: 40 L/min
- Operating pressure: 1,4-7,0 Bar
- Maximum operating pressure: 9,9 Bar
- Recommended operating temperature: 5°C to 38°C
- RoHS and CE compliant times per program

Warranty

- One year

PRODUCT HIGHLIGHTS

EASY CONNECTION

Connects directly to either a ¾" or 1" outdoor water tap or filter

SIMPLE PROGRAMMING

15 different preset watering day combinations simplify initial programming and setup.

Specifying Information — ELECTRONIC TAP TIMER

Description	Voltage
TTT	**9V**
TTT- Toro Tap Timer	9V—9 Volt (Battery not included

TEMPUS® SERIES

TEMPUS®: the ultimate controller of the Toro range. With this product you will be the real master of your garden: Discover all the new features of a product that has no equal in the market.

Wired Rain Sensor Compatible

FEATURES & BENEFITS

Arm chair programming

This feature gives you the opportunity to remove the controller from the wall and to program it from any room in the house.

Modularity

Tempus™ is the only controller in the market with a modular option: this means that only 1 control unit can be purchased and used for the various versions (Basic/ Pro) and for different irrigation systems (indoor and outdoor).

Design

Thanks to its colors and its look&feel modern and elegant, Tempus is also a furnishing accessory for your home.

Local Wi-Fi Module (optional)

The optional Wi-Fi module enables the controller to be remotely monitored and accessed anywhere in your home.
So download the new Toro App, create your account and connect to your device!

PRODUCT HIGHLIGHTS

SIMPLY AND INTUITIVE PROGRAMMING THANKS TO THE DIAL WITH 4 OPTIONS

HELP BUTTON

This very useful button will help you in programming by explaining what to do: the instruction manual will become superfluous

IOT WI-FI MODULE

Download on the App Store GET IT ON Google Play

SPECIFICATIONS

Technical

- 4, 6, 8 Stations
- 2 independent programs
- 3 start times per program
- Watering time: from 1 min to 8 hours (1 min increase)
- Flexible irrigation programming:
  – Daily
  –Irrigation on even and odd days
  –Irrigation at 1 to 30 day intervals
- Rain delay programmable up to 31 days or "permanent"
- Water Budget from 0% to 200%
- Stacking Program
- Automatic, semi-automatic and manual start
- Test program for all the stations
- Permanent Memory
- Help button (programming only)
- The "Super Cap" option provides back up power for maintaining the current time and date in the event of a power cut for more than 24 hours (without needing batteries)
- Multilingual display (Italian, English, French, Spanish, German)
- CE Certified

Electrical

- Input power:
  – 220 VAC, 50Hz
- Output power
  – Max per station 24 VAC (0,25 A)
  – Max tot (including Master Valve): 24 VAC (0,625 A)
- Operating Temperature: from -10° to 60°C

Option

- IOT Wi-Fi Ready

Dimensions

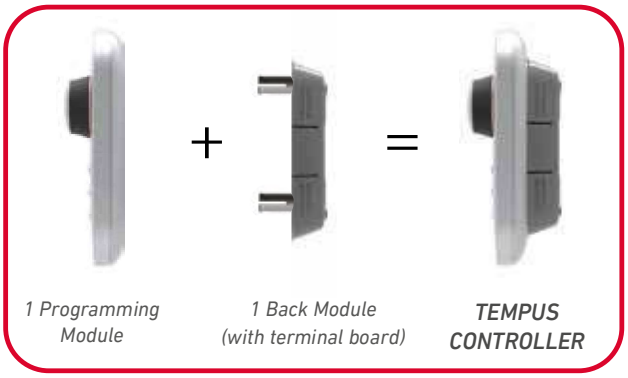
- 186 mm x 140 mm x 67mm (W x H x D)
- Weight: 0,6 kg

Warranty

- Two years

TEMPUS® ASSEMBLED SERIES MODEL LIST

Model	Description
TEMP-4	4 stations, external transformer 220 VAC
TEMP-6	6 stations, external transformer 220 VAC
TEMP-8	8 stations, external transformer 220 VAC
TEMP-4-EXT	4 stations, internal transformer 220 VAC
TEMP-6-EXT	6 stations, internal transformer 220 VAC
TEMP-8-EXT	8 stations, internal transformer 220 VAC
TEMP-EXT	External Box with transformer



ACCESSORIES

Model	Description
TEMP-WF	IOT Wi-Fi module for Tempus

TEMPUS® MODULAR SERIES MODEL LIST

Model	Description
TEMP-MOD	Programming Module
TEMP-B-4	Back Module 4 stations, external transf. 220 VAC
TEMP-B-6	Back Module 6 stations,external transf. 220 VAC
TEMP-B-8	Back Module 8 stations, external transf. 220 VAC

Specifying Information — TEMPUS® Assembled Series

TEMP-X-XXX	
Model	*Station*
TEMP	**X**
TEMP - Assembled Tempus Controller	4 - 4 Stations 6 - 6 Stations 8 - 8 Stations

*Specifying Information — TEMPUS® Modular Series**

TEMP-XXX	
Model	*Module*
TEMP	**XXX**
TEMP - Tempus Controller	MOD - Programming Module

+

TEMP-X-X-XXX			
Model	*Module*	*Station*	*Cabinet Type*
TEMP	**X**	**X**	**XXX**
TEMP - Tempus Controller	B - Back Module + terminal board	4 - 4 Stations 6 - 6 Stations 8 - 8 Stations	(blank) — Indoorl

***Example:** Tempus Controller 6 stations with external transformer would be specified: **TEMP-MOD + TEMP-B-6**

TEMPUS®PRO SERIES

Tempus®PRO is a step forward in the Tempus range: with this controller is possible to have the full control of your irrigation at any time and wherever you are. Easy to install and to program, with several large features, Tempus®PRO is the ideal controller for any residential application.

FEATURES & BENEFITS

Modular
From 4 to 16 stations, base of 4 stations with expanding module of 4 stations each (indoor and outdoor)

IOT Wi-Fi Module (optional)
The optional Wi-Fi module enables the controller to be remotely monitored and accessed anywhere within range of your home wireless network device, and can be remotely controlled with a smartphone

Hydraulic test capability

Electrical test capability

Loop program
One of the 4 programs can be set as “Continuous cycle program”

Multiple choise
The sensors can be managed in 5 different modes (Off, Start, Stop, Skip, Pause)

Additional Features

- ✔ Arm chair programming
- ✔ Possibility to work in m:h or s:m (up to 8 min)
- ✔ Programmable rain delay between stations (from 1 sec to 8 min)
- ✔ Pulse sensor input

Rain Sensor Compatible

Flow Sensor Compatible

SPECIFICATIONS

Technical

- 4 independent programs
- 6 start times per program
- Flexible irrigation programming:
  - Daily
  - Weekly
  - Irrigation on even and odd days
  - Irrigation at 1 to 30 day intervals
- Rain delay programmable up to 31 days or "permanent"
- Water Budget from 0% to 200%
- Stacking Program
- Automatic, semi-automatic and manual start
- Test program for all the stations
- Permanent Memory
- Rain sensor activation through switch
- Sensors may be managed in 5 different modes (Off, start, stop, skip, hold)
- Pulse sensor may be active when no valve is working
- The "Super Cap" option provides back up power for maintaining the current time and date in the event of a power cut for more than 24 hours (without needing batteries)
- Electronical or mechanical program retention possibility
- Help button (programming only)
- Multilingual display (Italian, English, French, Spanish, German)
- CE Certified

Electrical

- Input power: 220 VAC, 50Hz
- Output power:
  - Max per station 24 VAC (0,25 A)
  - Max tot (including Master Valve): 24 VAC (0,625 A)
- Operating Temperature: from -10° to 60°C

Option

- IOT Wi-Fi Ready
- 4 stations expanding module

Dimensions

- 186 mm x 140 mm x 67mm (W x H x D)
- Weight: 1,5 kg

Warranty

- Two years

PRODUCT HIGHLIGHTS

EXPANDING MODULE

Expanding modules of 4 stations

OPTIONAL IOT WI-FI MODULE

Thanks to the Toro App, you will always be connected to your irrigation system at any time and wherever you are!

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TEMPUS®PRO ASSEMBLED SERIES MODEL LIST

Model	Description
TEMP-P	4-stations, Indoor, 220 VAC
TEMP-P-SM	Station expanding module 4 stations
TEMP-EXT	External Box with transformer

ACCESSORIES

Model	Description
TEMP-P-WF	IOT Wi-Fi module for Tempus®Pro

Specifying Information — TEMPUS®PRO Modular Series

TEMP-XXX

Model	Module
TEMP	**XXX**
TEMP - Tempus Controller	MOD - Programming Module

+

TEMP-P-X-X-XXX

Model	Module	Cabinet Type
TEMP-P	**X**	**XXX**
TEMP-P - Tempus Pro Controller 4 stations	B - Back Module + transformer	(blank) — Indoor AC Model EXT—Outdoor

+

TEMP-P-SM

Model	Parts
TEMP-P	**SM**
TEMP-P - Tempus Pro Controller	SM - Station expanding module 4 stations

Example: a 8 station Tempus controller in an outdoor cabinet would be spcified as: **TEMP-MOD + TEMP-P-B-EXT + TEMP-P-SM**

CENTRAL CONTROL

Leveraging cutting-edge wireless communication and sensing technologies, Toro's line central control products offers maximum flexibility and control in an easy-to-use package for sites both large and small.

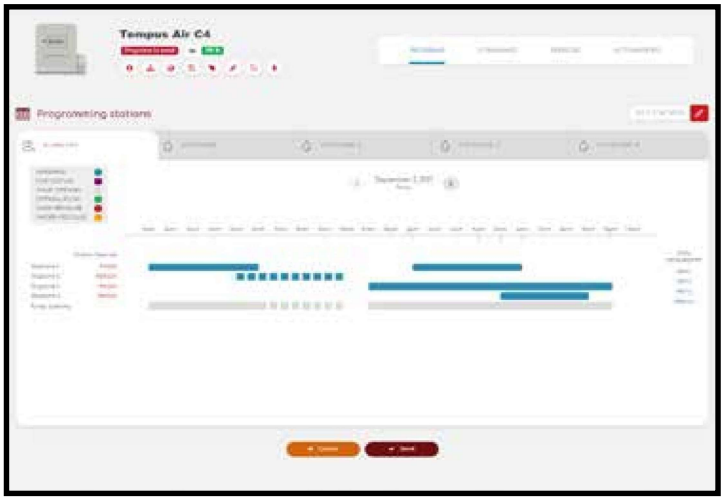
CENTRAL CONTROL

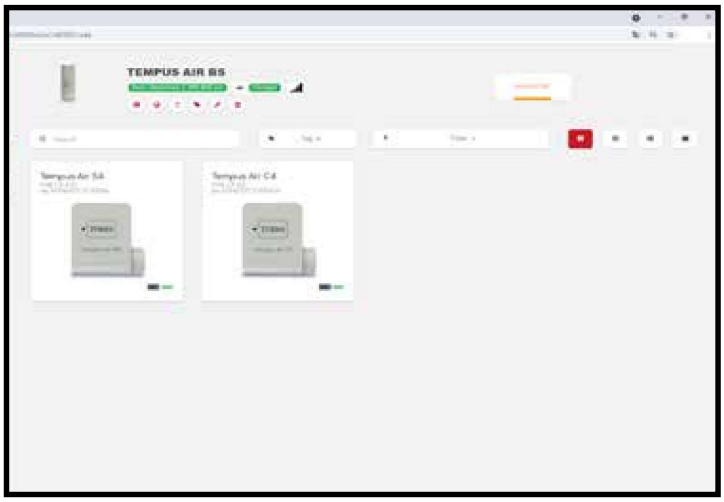
Pagine 142–169

Manage your irrigation system via a very intuitive web platform. Connect to MyToroTempus.com and quickly start programming your system thorough a user-friendly graphic interface.

ACCESS YOUR DASHBOARD FROM HOME, OFFICE OR DIRECTLY IN THE FIELD AND SET YOUR IRRIGATION SCHEDULE BASED ON REAL-TIME INFORMATION

- Stations programming
  - by time
  - by volume
  - by rainfall
- Cyclic programming
- Up to 180 stations per gateway
- Real-time detection of field parameters through sensors:
  - Soil moisture sensor
  - Wind speed sensor
  - Pluviometer
  - Air humidity sensor
  - Temperature sensor
  - Rain sensor
- Automatic response depending on flowmeter and sensors inputs
- Real-time alerts
- Monitor trend of sensors through specific graphs
- Export sensor data in excel, CSV or JSON formats
- Daily irrigation summary chart
- Water consumption summary
- Automatic management of master valve
- Manual command by volume or time
- Geolocation and system visual management on digital maps
- Management of customer-defined groups of modules/gateways





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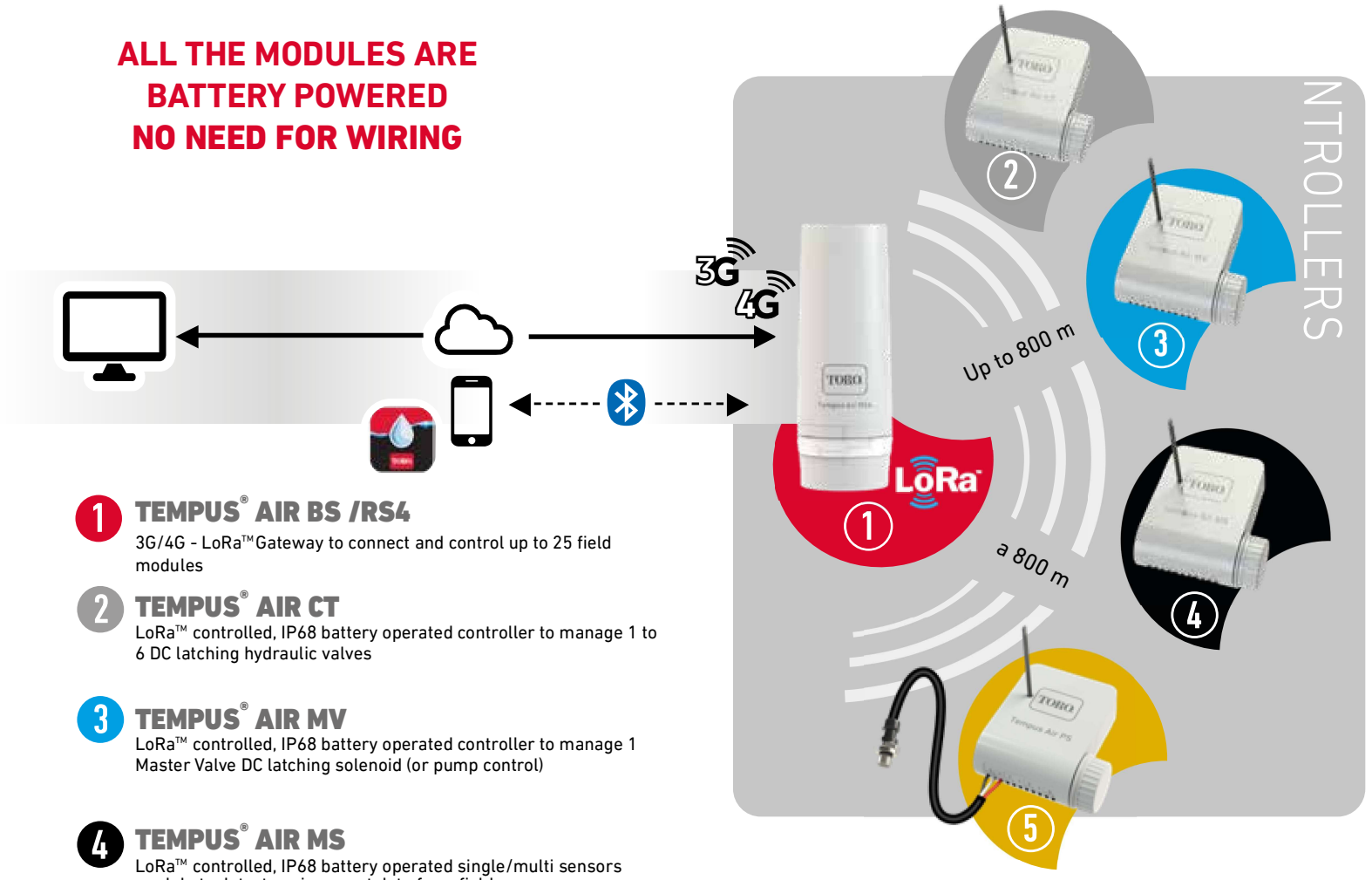
GENERAL SYSTEM OVERVIEW

ALL THE MODULES ARE BATTERY POWERED NO NEED FOR WIRING



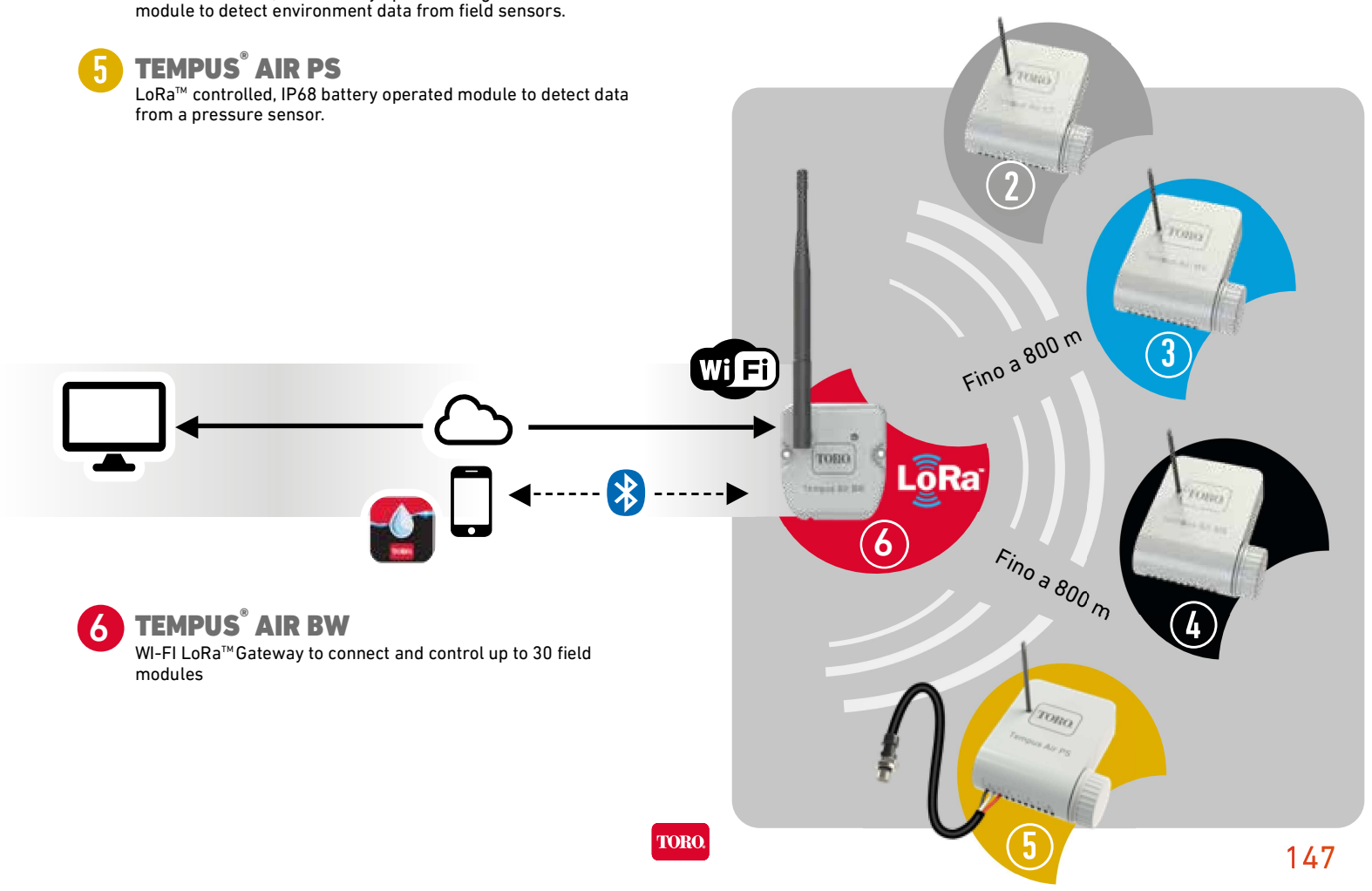
1 TEMPUS® AIR BS /RS4
3G/4G - LoRa™ Gateway to connect and control up to 25 field modules

2 TEMPUS® AIR CT
LoRa™ controlled, IP68 battery operated controller to manage 1 to 6 DC latching hydraulic valves

3 TEMPUS® AIR MV
LoRa™ controlled, IP68 battery operated controller to manage 1 Master Valve DC latching solenoid (or pump control)

4 TEMPUS® AIR MS
LoRa™ controlled, IP68 battery operated single/multi sensors module to detect environment data from field sensors.

5 TEMPUS® AIR PS
LoRa™ controlled, IP68 battery operated module to detect data from a pressure sensor.



6 TEMPUS® AIR BW
WI-FI LoRa™ Gateway to connect and control up to 30 field modules

TEMPUS® AIR BS

3G - LoRa™ Gateway

3G - LoRa™ Gateway allows you to remotely monitor and control the field modules via smartphone / tablet (with MyToroTempus App) or via PC utilizing MyToroTempus.com web platform.
3G - LoRa™ Gateway allows direct connection from smartphone / tablet via Bluetooth®

3G - LoRa™ Gateway to connect and control up to 25 field modules via LoRa™.

SPECIFICATION AND FEATURES

- LoRa™ radio connection [868-868.6] MHz, 25mW
- Manages up to 25 field modules simultaneously
- LoRa™ range up to 800 m
- 3G Connection
- 12 connections per day
- Bluetooth® Smart 4.0 Low Energy
- 230VAC/24VDC power supply or solar panel (optional)
- 24 h autonomy
- Remote management via MyToroTempus App and MyToroTempus.com Web Platform
- Waterproof IP65
- Multi Provider SIM Card Included
- Data Subscription fee included for the first year*. SIM Card must be activated, ask your dealer to manage your activation.
- Power transformer 230VAC/24VDC included
- Possibility to be powered by a solar panel (not included)
- Installation Kit included (stainless steel band ties and clamp)
- Test to check the status of the connection between Tempus Air BS and the modules at any time
- Operating Temperature: -20°C / 60°C

DATA SUBSCRIPTION FEE INCLUDED FOR THE FIRST YEAR

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**) First year data subscription will expire end of February independently from the activation date. For the following years, data subscription renewals will be subject to annual fee.*

Codification

Code	Description
TEMP-AIR-BS	Tempus® Air BS - 3G - LoRa™ Gateway

In remote areas where power supply is not available, Tempus® Air BS can be powered by solar panel.

Colored LEDs to easy identify Gateway Status

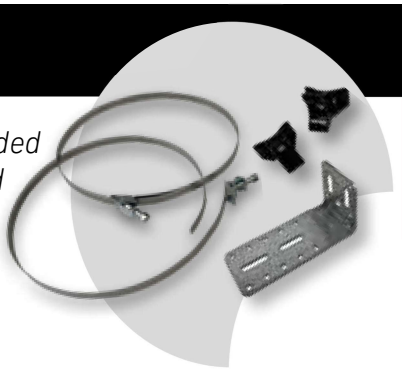
Initialization

Network Connection

Ready

Power transformer 230VAC/24VDC included (Electric plug not included)

Installation Kit included (stainless steel band ties and clamp)



MANUAL

CE

TEMPUS® AIR RS4

4G - LoRa™ React Gateway

4G - LoRa™ Gateway allows you to remotely monitor and control the field modules via smartphone / tablet (with MyToroTempus App) or via PC utilizing MyToroTempus.com web platform.
4G - LoRa™ Gateway allows direct connection from smartphone / tablet via Bluetooth®

4G - LoRa™ Gateway to connect and control up to 25 field modules via LoRa™.

SPECIFICATION AND FEATURES

- LoRa™ radio connection [868-868.6] MHz, 25mW
- Manages up to 25 field modules simultaneously
- LoRa™ range up to 800 m
- 4G Connection
- 24 connections per day
- React Functions
- Bluetooth® Smart 4.0 Low Energy
- 230VAC/24VDC power supply or solar panel (optional)
- Lithium Battery included
- 96 h autonomy
- Remote management via MyToroTempus App and MyToroTempus.com Web Platform
- Waterproof IP54
- Multi Provider SIM Card Included
- Data Subscription fee included for the first year*. SIM Card must be activated, ask your dealer to manage your activation.
- Power transformer 230VAC/24VDC included
- Possibility to be powered by a solar panel (not included)
- Installation Kit included (stainless steel band ties and clamp)
- Test to check the status of the connection between Tempus Air BS and the modules at any time
- Operating Temperature: -20°C / 60°C

DATA SUBSCRIPTION FEE INCLUDED FOR THE FIRST YEAR

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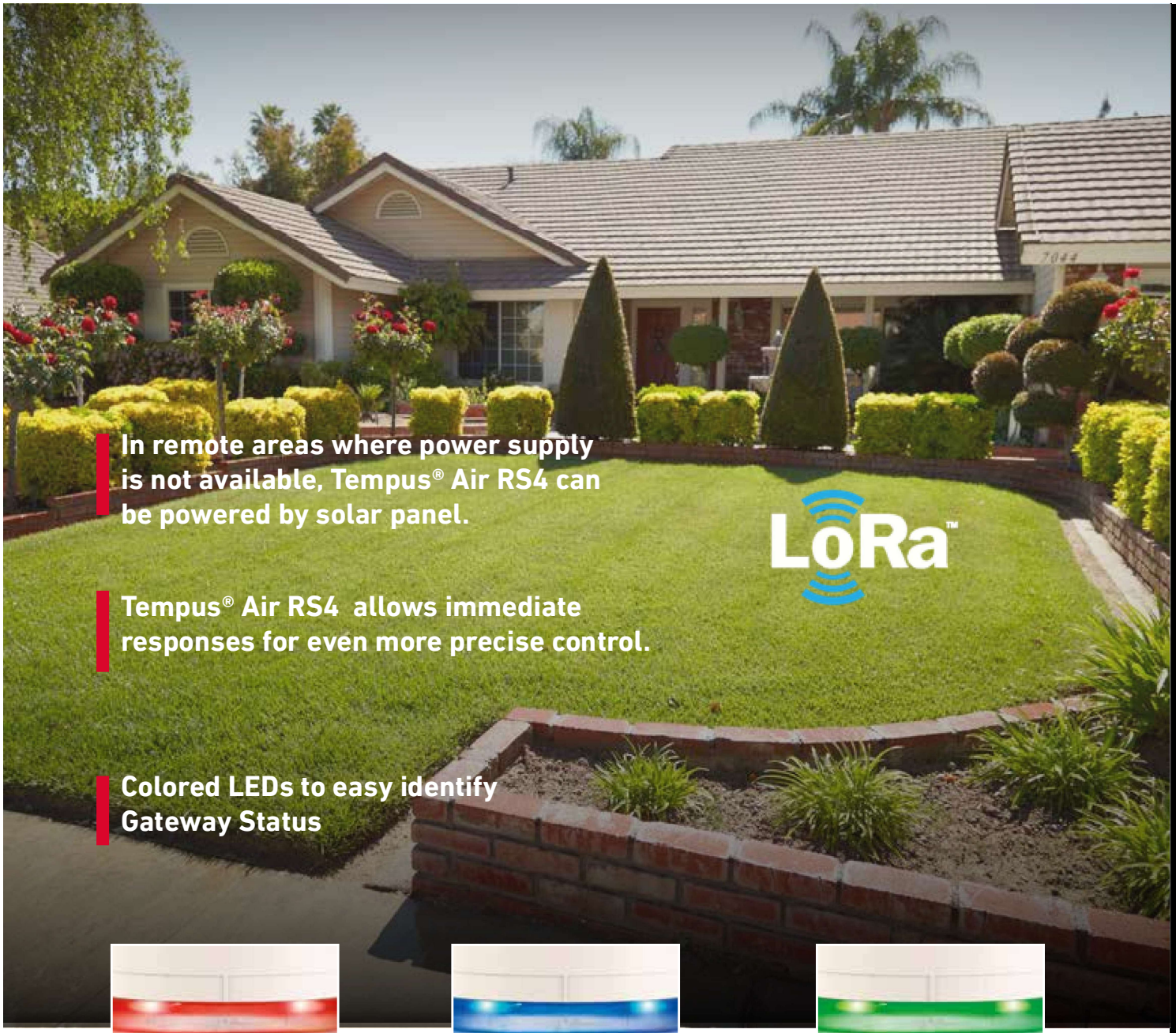
**) First year data subscription will expire end of February independently from the activation date. For the following years, data subscription renewals will be subject to annual fee.*

Codification

Code	Description
TEMP-AIR-RS4	Tempus® Air RS4 - 4G - LoRa™ Gateway



In remote areas where power supply is not available, Tempus® Air RS4 can be powered by solar panel.

Tempus® Air RS4 allows immediate responses for even more precise control.

Colored LEDs to easy identify Gateway Status

LoRa™

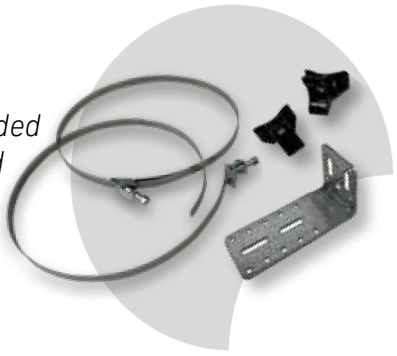
Initialization

Network Connection

Ready

Power transformer 230VAC/24VDC included (Electric plug not included)

Installation Kit included (stainless steel band ties and clamp)



MANUAL

CE

TEMPUS® AIR BW

Wi-Fi - LoRa™ Gateway

Wi-Fi - LoRa™ Gateway allows you to remotely monitor and control the field modules via smartphone/tablet (with MyToroTempus App) or via PC utilizing MyToroTempus.com web platform.

Wi-Fi - LoRa™ Gateway to connect and control up to 30 field modules via LoRa™.

SPECIFICATION AND FEATURES

- LoRa™ radio connection [868-868.6] MHz, 25mW
- Manages up to 30 field modules simultaneously
- LoRa™ range up to 800 m
- Wi-Fi Connection: 2.4GHz, 25mW
- Bluetooth® Smart 4.0 Low Energy
- Power supply with external 230VAC/12VDC transformer included
- Remote management via MyToroTempus App and MyToroTempus.com Web Platform
- Can be installed indoor or outdoor in a waterproof box
- Continuous connection with your Wi-Fi network.
- LoRa™ radio communication with modules every 3 minutes.
- Antenna wire extension up to 10 m optional
- Test to check the status of the connection between Tempus Air BW and the modules at any time
- Operating Temperature: 0°C / 50°C

TEMPUS AIR BW CONNECTS THE IRRIGATION SYSTEM TO YOUR WI-FI NETWORK IN JUST ONE CLICK!

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Codification

Code	Description
TEMP-AIR-BW	Tempus® Air BW - Wi-Fi - LoRa™ Gateway

Colored LEDs to easy identify Gateway Status

LoRa™

Initialization

Ready

Power transformer 230VAC/12VDC included

Swivel antenna (included)

10 m cable extension (optional)

MANUAL

CE

TEMPUS® AIR CT

1-6 Stations Controller

The module can control from 1 to 6 DC latching hydraulic valves. It can read one rain or flow meter sensor input.
The module communicates with Gateway (3G/4G or Wi-Fi) receiving the irrigation programming and transmitting data detected by the sensor.
The module allows direct connection from smartphone / tablet via Bluetooth®.

LoRa™ controlled, IP68 battery operated controller to manage from 1 to 6 hydraulic valves. It can read one rain or flow meter sensor input.

CONTROLLERS ARE BATTERY POWERED NO NEED FOR WIRING

SPECIFICATION AND FEATURES

- LoRa™ radio connection [868-868.6] MHz, 25mW
- 1,2,4 or 6 stations
- LoRa™ range up to 800 m
- Independent programming by station
- Watering schedule: daily, odd/even days, day interval, cyclic
- 4 irrigation windows per station
- Bluetooth® Smart 4.0 Low Energy
- Automatic and manual start from smartphone/ tablet/pc
- Permanent memory
- Rain or flow meter sensor input
- Rain delay function from 1 to 15 days or permanent
- Remote management via MyToroTempus App and MyToroTempus.com Web Platform
- IP68 waterproof
- Power Supply 9V DC battery
- 9V Latching solenoid compatible
- Maximum wiring distance from CT module to solenoids: 300 m
- Operating Temperature: -20°C / 60°C

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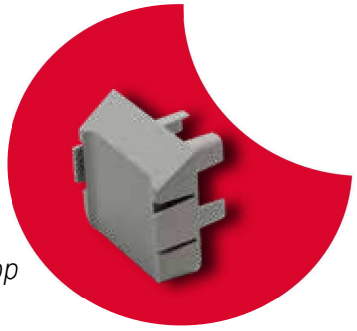
Codification

Code	Description
TEMP-AIR-C1	Tempus® Air CT - DC Controller 1 Station
TEMP-AIR-C2	Tempus® Air CT - DC Controller 2 Stations
TEMP-AIR-C3	Tempus® Air CT - DC Controller 4 Stations
TEMP-AIR-C6	Tempus® Air CT - DC Controller 6 Stations

Clear station labelling to make the installation process easy and intuitive



Bracket for installation on top of a solenoid included

Waterproof wire connectors included

MANUAL

Battery not included

TEMPUS® AIR MV

DC controller for Master Valve

The module manages a Master Valve (or a pump control). It can read one rain or flow meter sensor input.
The module communicates via LoRa™ with the Gateway (3G/4G or Wi-Fi), receiving the irrigation programming and forwarding the data detected by the sensor. The module allows a direct connection from smartphone/ tablet via Bluetooth®.

LoRa™ controlled, battery-powered controller, IP68, to manage a Master Valve (or a pump control) equipped with an input for a rain or volumetric sensor.

SPECIFICATIONS AND FEATURES

- LoRa™ radio connection [868-868.6] MHz, 25mW
- Master Valve Management
- LoRa™ range up to 800m
- Up to 200 automatic start-ups for connected Tempus® Air CT controllers
- Bluetooth® Smart 4.0 Low Energy
- Permanent memory
- Input for rain or volumetric sensor (flow meter)
- Rain delay mode from 1 to 15 days or “permanent”
- Remote management via MyToroTempus App and MyToroTempus.com Web platform
- IP68 waterproof
- Power Supply 9V DC battery
- 9V Latching solenoid compatible
- Maximum wiring distance from the MV module to the solenoids: 300 m
- Operating temperature: -20° C/60° C

NO WIRING.
BATTERY-POWERED
CONTROLLER

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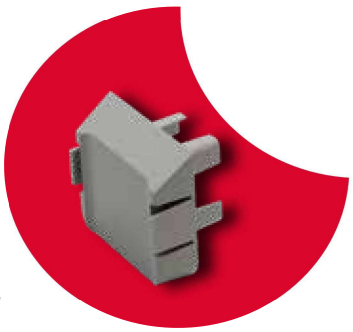
Codification

Code	Description
TEMP-AIR-MV	Tempus® Air MV - Controller for Master Valve (or pump control)

To control a pump, connect Tempus® Air MV to the Tempus® Air PR relay (to be purchased separately)

It automatically handles up to 200 start-ups for connected Tempus® Air CT controllers



Bracket for installation on top of a solenoid included

Waterproof wire connectors included

Battery not included

MANUAL Tempus® Air MV

MANUAL Tempus® Air PR

CE

TORO

TEMPUS® AIR MS

Single/Multi Sensors Module

The module receives field data from 1-4 sensor inputs (among temperature, soil humidity, air humidity, wind and pluviometer).
The module communicates with Gateway (3G/4G or Wi-Fi) transmitting detected field data.
The module allows direct connection from smartphone / tablet via Bluetooth®.

LoRa™ controlled, IP68 battery operated single/multi sensors module.

SPECIFICATION AND FEATURES

- LoRa™ radio connection [868-868.6] MHz, 25mW
- 1 or 4 sensor inputs (S1 or S4 respectively)
- LoRa™ range up to 800 m
- 1 temperature acquisition input (S4 model only)
- 1 or 3 configurable inputs (respectively for S1 and S4):
  - Dry contact (rain sensor, pluviometer...)
  - Pulse (flow meter, wind sensor)
  - Analog 0-3,5V (humidity sensor)
- Bluetooth® Smart 4.0 Low Energy
- Alert function based on daily thresholds
- Remote management via MyToroTempus App and MyToroTempus.com Web Platform
- IP68 waterproof
- Power Supply 9V DC battery
- Operating Temperature: -20°C / 60°C

MODULES ARE BATTERY POWERED
NO NEED FOR WIRING

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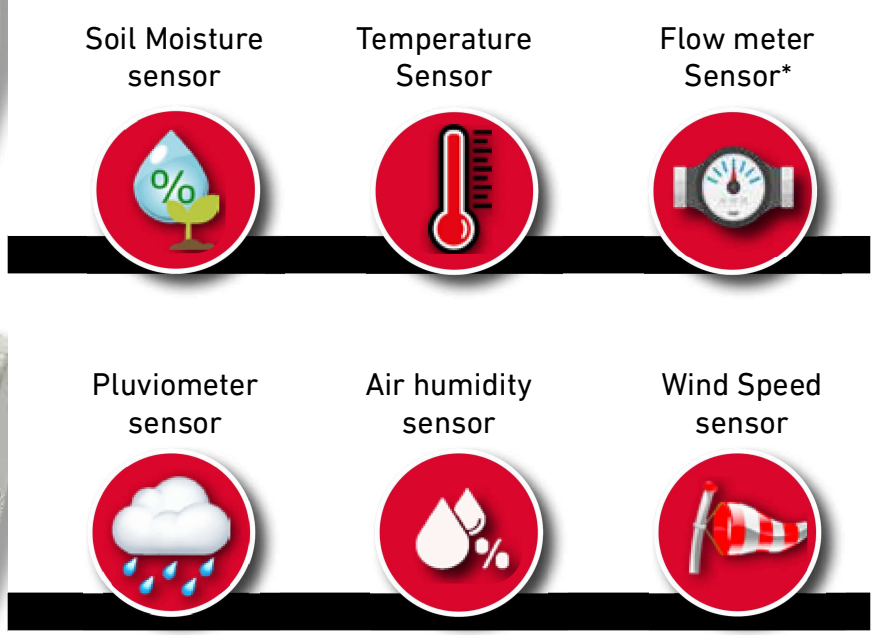
Codification

Code	Description
TEMP-AIR-S1	Tempus® Air MS - DC Single Sensor Module
TEMP-AIR-S4	Tempus® Air MS - DC Multi Sensors Module

Worry-free wiring process due to clearly visible input labelling

Multi Sensor Module can work with the following sensors



See next session for sensors details and specifications

** It can work with any pulsing flow meter*

Waterproof wire connectors included

MANUAL

CE

Battery not included

TEMPUS® AIR PS

Pressure Sensor Module

The module detects the pressure of your irrigation system.
Thanks to the pre-wired pressure sensor, Tempus® Air PS allows you to check the operating status of your system, to prevent malfunctions and to warn you if pre-set thresholds are exceeded.
The module communicates with the Gateway (3G/4G or Wi-Fi), forwarding the detected data and also allows direct connection from smartphone/tablet via Bluetooth®.

LoRa™ controlled, IP68, battery-powered pressure sensor module.

SPECIFICATIONS AND FEATURES

- LoRa™ radio connection [868-868.6] MHz, 25mW
- 1 input for pressure sensor
- LoRa™ range up to 800m
- Pressure sensor included and pre-wired
- 0-5V analogue input
- Pressure measurement 0-16 bar
- Bluetooth® Smart 4.0 Low Energy
- Warning feature when thresholds exceeded
- Waterproof connector (MetriPack-150)
- Sensor thread: G1/4 EN 837
- Remote management via MyToroTempus App and MyToroTempus.com Web platform
- IP68 waterproof
- Powered by 9V DC battery
- Operating temperature: -20° C/60° C

NO WIRING.
THE MODULE IS
BATTERY-POWERED

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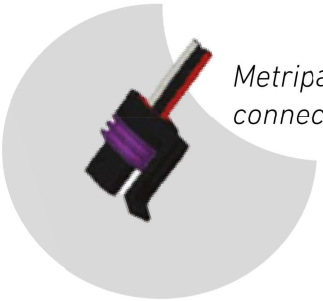
Coding

Code	Description
TEMP-AIR-PS	Tempus® Air PS - Pressure Sensor Module

The pressure sensor is connected to the module directly at the factory

The sensor can be disconnected thanks to its waterproof Metripack-150 connector

Pressure sensor



Metripack-150 waterproof connector included

MANUAL

Battery not included

VH400

Soil moisture sensor

VH400 sensor allows an accurate monitoring of soil moisture. It can be installed into the soil, close to the root zone, or directly into pots. Its small dimensions do not disturb plant's root system while providing precise moisture readings.

Compatible with Tempus® Air MS Single/Multi Sensors Modules (S1 and S4)

FEATURES

- Volumetric water (VWC) or Gravimetric Water (GWC) Content measurement
- Output voltage proportional to humidity level
- Low consumption (< 13 mA)
- Insensitive to salinity
- Quick response time
- Rugged design for long term use
- Probe resistant to corrosion
- Small dimensions
- Waterproof
- EN 50581:2012

INSTALLATION

Place the sensor at root level.

For accurate readings place it horizontally

SPECIFICATION

Accuracy	Soil Volumetric Water Content (VWC) 2% @ 25°C
Reading range	0% - 100%
Resolution	from 0 to 50 % VWC (from 0 to 2,2V)
Power supply	3,5V - 20 V DC, Consumption < 13 mA
Output signal	0 to 3V related to moisture content
Power on to Output stable	400 ms
Cable length	2 m (extensible up to 10 m)
Dimensions of detection area	9,3 cm x 0,7 cm
Operating temperature	-40°C to 85°C
Wiring & Connection to Tempus Air MS	Red: + VBAT (Power supply) to be connected with Tempus Air MS red wire Black: Output from 0 to 3V to be connected with Tempus Air MS yellow wire (+) Grey or nude cable: GND (Ground) to be connected with Tempus Air MS black wire (-)

Codification

Code	Description
IT-VH400	Soil moisture sensor (VH400)

SM100

Soil moisture sensor

Maintaining the correct soil moisture is essential for keeping plants healthy. SM100 sensor supports you in identifying the correct irrigation scheduling so to optimize plant growth while avoiding water stress. Place SM100 sensors at multiple depths to have an accurate detection of soil humidity.

Compatible with Tempus® Air MS Single/Multi Sensors Modules (S1 and S4)

FEATURES

- Volumetric Water (VWC) Content measurement
- Capacitance-type sensor responds immediately to changes in soil moisture content for better irrigation decisions
- Calibrated for mineral soils or soilless media
- Installs easily into 1.9 cm hole (3/4 in)
- Analog voltage proportional to excitation voltage
- Install permanently or use to take spot measurements
- Sturdy design
- Probe resistant to corrosion
- Small dimensions
- Waterproof

INSTALLATION

It can be installed above ground or underground in both vertical and horizontal orientation
For accurate readings be sure to maintain good contact between the sensor and the soil.

SPECIFICATION

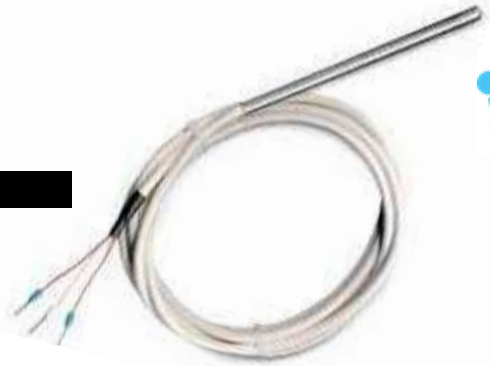
Accuracy	Soil Volumetric Water Content (VWC) 3% @ EC < 8 ms/cm
Reading range	0% VWC up to saturation
Resolution	0,1% VWC
Power supply	3 to 5V @ 6 to 10 mA
Output signal	0,5 to 1,5V for a 3V excitation Analog voltage proportional to excitation voltage
Cable length	1,8 m (extendable up to 15 m)
Dimensions of detection area	6 cm x 2 cm
Operating temperature	0,5°C to 80°C
Wiring	Red: Output voltage humidity to be connected with Tempus Air MS yellow wire (+) White: V + Excitation (from 3 to 5V regulated) to be connected with Tempus Air MS red wire Black: GND (Ground) to be connected with Tempus Air MS black wire (-)

Codification

Code	Description
IT-SM100	Soil moisture sensor (SM100)

PT100

Temperature sensor



PT100 probe is a Resistance Temperature Detector (RTD) that contains a 100 Ω platinum resistor that changes its resistance value as temperature changes. Together with several other parameters, temperature readings are essential to evaluate evapotranspiration and consequently to identify the optimal irrigation scheduling.

Compatible with Tempus® Air MS Multi Sensors Modules (S4)

FEATURES

- Accurate temperature readings
- High precision
- Waterproof
- IEC 60751

SPECIFICATION

Probe type	PT100 class B - 3 wires
Accuracy	± 0,30°C @ 0°C
Protective sheath	INOX 316L
Cable	PVC / PVC
Cable length	3 m
Frame dimension	Ø 6 mm, length 100 mm
Operating temperature	-40°C to 105°C
Wiring & Connection to Tempus Air MS	White: to be connected with Tempus Air MS (S4) positive orange wire (+) Red (one of the two): to be connected with Tempus Air MS (S4) negative orange wire (-)

INSTALLATION

The PT100 cable must be laid linearly, without creating windings.

Codification

Code	Description
IT-PT100	Temperature sensor (PT100)

PLUVIO-01

Pluviometer sensor

PLUVIO-01 measures the amount of precipitation over a specified period of time. After each filling (0.2794 mm), the tipping bucket empties automatically so that it can be ready to fill again. Rainfall reporting is essential to optimize your irrigation schedule thus avoiding unnecessary waste of water.

Compatible with Tempus® Air MS Single/Multi Sensors Modules (S1 and S4)

FEATURES

- Compact rounded rain gauge (118/135 x 60 x 80 mm).
- After each filling, the bucket automatically empties so that it can be ready to be refilled again.

SPECIFICATION

Output signal	Dry contact
Cable length	75 cm
Dimensions	13,5 cm x 6 cm x 8 cm
Wiring & Connection to Tempus Air MS	Red: to be connected with Tempus Air MS yellow wire Green: to be connected with Tempus Air MS black wire

INSTALLATION

Place the pluviometer in undisturbed position (so to have an optimum rain catch).

Suggestions: In open field strive to be twice as far from obstacles as they are high and at least 50 cm off the ground

Codification

Code	Description
IT-PLUVIO-01	Pluviometer (LEXCA001)

HM1500LF

Air humidity sensor

HM1500LF is a humidity transducer designed for those applications where a reliable and accurate measurement is needed. HM1500LF measures air Relative Humidity (RH). There is a strong correlation between RH trace and daily evapotranspiration; HM1500LF supports you in identifying plant-watering needs.

Compatible with Tempus® Air MS Single/Multi Sensors Modules (S1 and S4)

FEATURES

- Accurate measurements within 10 to 95% RH
- High reliability and long-term stability
- Fast response time
- Not light sensitive
- Instantaneous de-saturation after long periods in saturation phase
- Protected against reversed polarity
- Not affected by water immersion
- Very low temperature dependence
- Patented solid polymer structure
- Small size
- Lead free / RoHS Compliant

INSTALLATION

Avoid installing the sensor near an area that could cause an inaccurate reading

SPECIFICATION

Humidity Measuring Range	0 to 100% RH
Relative Humidity Accuracy (10 to 95% RH)	± 3 to ±5% RH
Humidity resolution	0,4 %RH
Humidity Hysteresis	±1 %RH
Warm up time (electronic)	150 ms
Current consumption	1 to 2 mA
Operating temperature	-40°C to 60°C
Wiring & Connection to Tempus Air MS	Blue: to be connected with Tempus Air MS red wire Yellow: to be connected with Tempus Air MS yellow wire (+) White: to be connected with Tempus Air MS black wire (-)

Codification

Code	Description
IT-HM1500LF	Air humidity sensor (HM1500LF)

ANEMO 440 V3

Wind speed sensor

ANEMO 440 V3 is a anemometer sensor that can obtain wind speed records during time. Winds strongly affect evapotranspiration, and it is hence essential to detect and record wind speed to correctly adjust the irrigation scheduling.

Compatible with Tempus® Air MS Single/Multi Sensors Modules (S1 and S4)

FEATURES

- Wide range of measurement
- Sturdy construction, great mechanical resistance
- Stainless steel bearings
- Low power consumption
- IP65
- EN 61000-6-2:2001 & EN 55022:2001 Class B

INSTALLATION

The wind sensor must be fixed on a vertical position

SPECIFICATION

Reading range	Wind speed from 3 to 180 km/h
Maximum wind speed	200 km/h
Accuracy	1 km/h from 3 to 15 km/h 3% from 15 to 180 km /h
Output	Frequency (pulses)
Power Supply	3 to 24 VDC (24 mA max)
Cable Length	2,5 m
Dimensions	Ø 125 mm x 139 mm
Weight	130 g
Operating temperature	-20°C to 80°C
Wiring	Red: to be connected with Tempus Air MS yellow wire (+) Yellow: to be connected with Tempus Air MS black wire (-)

Codification

Code	Description
IT-4403VZ	Wind speed sensor (ANEMO440 V3)

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

www.toro.com

Worldwide Headquarters
The Toro Company
8111 Lyndale Ave. So.
Bloomington, MN 55420 U.S.A.
Phone: (1) 952 888 8801
Fax: (1) 952 887 8258

GB 200-9032

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