



Toro® PSN+ Precision™ Series Spray Nozzles are the most efficient spray nozzles available and use 33% less water than other nozzles thanks to Toro's proprietary H<sup>2</sup>O Chip Technology. With a matched precipitation rate of 1" per hour, Precision™ Series Spray Nozzles help irrigation professionals better manage water usage, eliminate runoff, and reduce their customers' water costs. These nozzles are available in a wide variety of arcs and radii, and Toro (male) and female threads, making them ideal for both new installations and retrofits of existing systems. In addition, the best in class\* PSN+ Precision™ Series Spray Nozzles feature Toro's exclusive Debris Guard™ technology.

## FEATURES & BENEFITS

### Patented H<sup>2</sup>O Chip Technology

Each nozzle contains one or more H<sup>2</sup>O chips that create a high frequency oscillating stream and deliver a precipitation rate of 1" per hour – an industry first – while using up to 33% less water than a standard MPR nozzle.

### 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.

### Debris Guard™

The PSN+ Series line of nozzles feature exclusive Debris Guard technology, which keeps external dirt and debris that can cause clogging out of nozzle openings.

\* Laboratory and third party independent field testing show efficiency to be 15-20% higher than competitive nozzles at 15 feet or less.

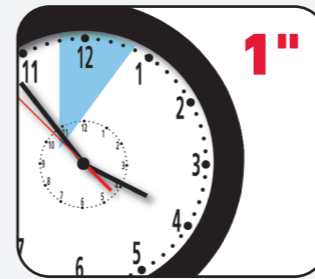


## PRODUCT HIGHLIGHT



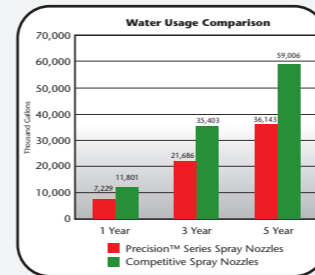
### Debris Guard Technology

The exclusive Debris Guard™ technology addresses the issue of clogging due to suck back of external debris. It is not uncommon for spray nozzles to experience some amount of suck-back when the irrigation system shuts down. Debris Guard is an exclusive anti-siphon device integrated into the nozzle screen that prevents dirt and debris from being suctioned into and trapped in the nozzle. This increases the life of the nozzle, preserves its irrigation pattern and coverage, and maintains its ability to provide long-lasting water efficient results.



### 1" Per Hour Matched Precipitation & One-For-One Retrofit

Perfect when upgrading conventional, higher flow spray nozzles.



### Higher Overall Irrigation Efficiency From 5-15 Feet

Precision™ Series Spray nozzles perform more like a small rotor. The H<sup>2</sup>O 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.



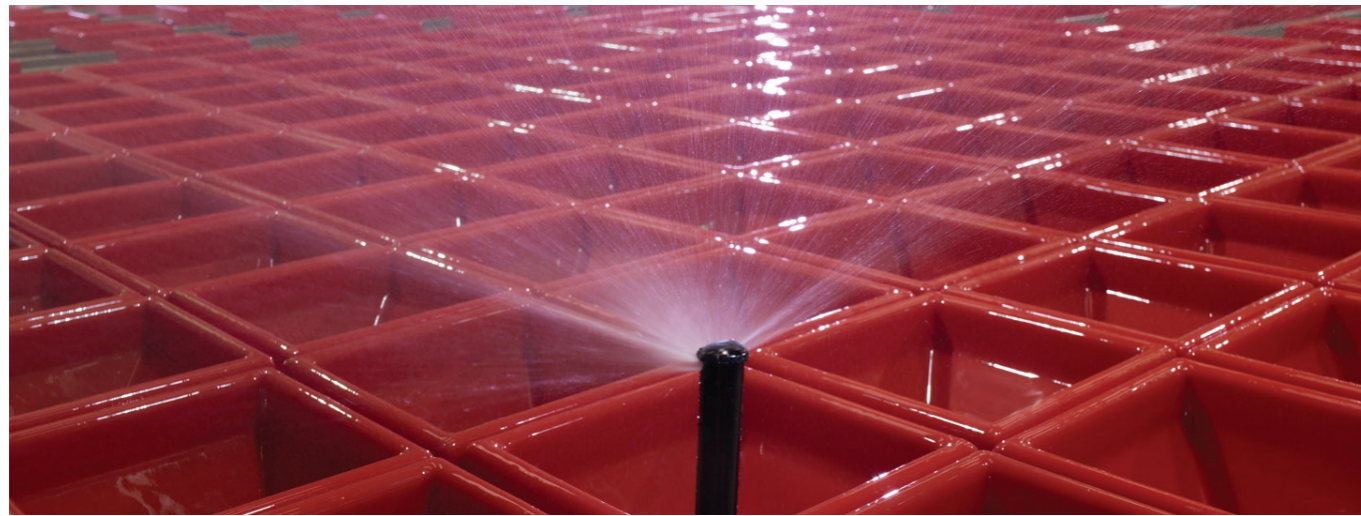
### Water Use Reduction While Minimizing Run-Off & Water Waste

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

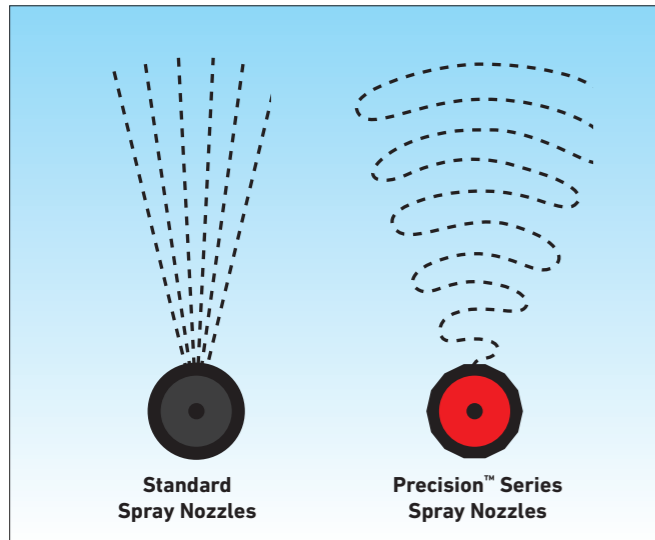


### Nozzle Selection Second To None

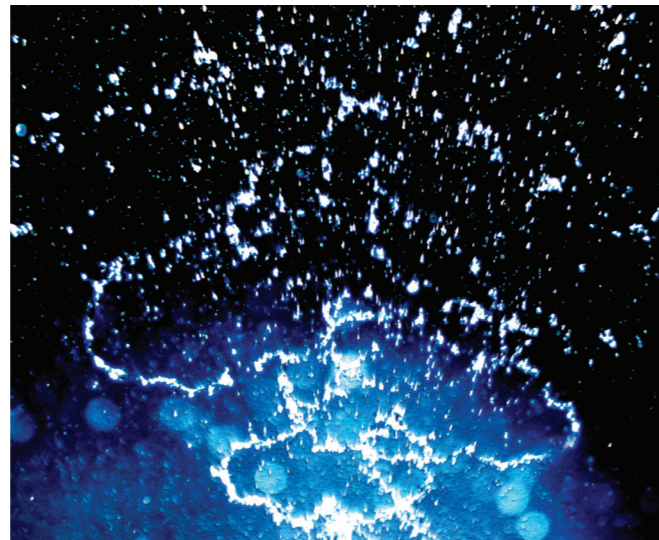
Available in male and female threaded models with radius options between 5' and 15', and nine different arcs between 60° and 360°, and specialty arcs, such as right and left corners, and center strips. All nozzles feature color-coded tops with arc indication for quick overhead identification in the field.



Laboratory and third party independent field testing show efficiency to be 15-20% higher than competitive nozzles.



Patented H<sup>2</sup>O Chip Technology Delivers Improved Uniformity  
Water enters a specially designed chamber within the H<sup>2</sup>O 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.



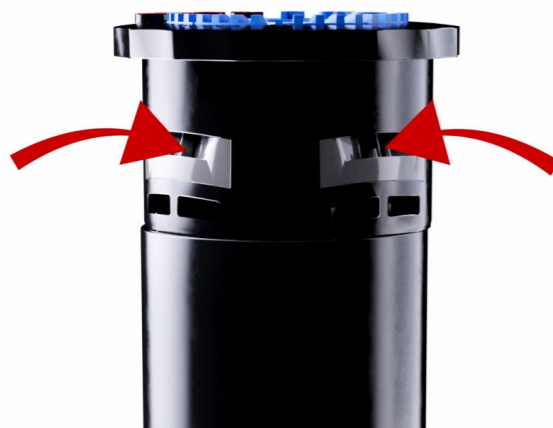
**PERFORMANCE DATA – PSN+ SPRAY NOZZLES WITH DEBRIS GUARD™**

Arc	model # (PSNXXXX)	kPa	lpm	Radius	Precip. Rate (mm./hr.)	Precip. Rate (mm./hr.)	model # (PSNXXXX)	kPa	lpm	Radius	Precip. Rate (mm./hr.)	Precip. Rate (mm./hr.)	model # (PSNXXXX)	kPa	lpm	Radius	Precip. Rate (mm./hr.)	Precip. Rate (mm./hr.)
90°	PSN5-Q	207	0.23	5.6	20.32	22.86	PSN8-Q	207	0.61	8.4	22.86	25.40	PSN10-Q	207	0.91	10.4	22.86	25.40
		276	0.30	5.8	22.86	25.40		276	0.68	8.4	25.40	27.94		276	1.06	10.5	25.40	27.94
		345	0.30	6.1	22.86	25.40		345	0.79	8.8	25.40	30.48		345	1.21	10.6	27.94	33.02
		414	0.34	6.4	22.86	25.40		414	0.87	8.9	27.94	33.02		414	1.32	10.7	30.48	33.02
		483	0.38	6.5	22.86	25.40		483	0.98	9.2	30.48	35.56		483	1.44	10.7	33.02	38.10
180°	PSN5-H	207	0.45	5.5	20.32	22.86	PSN8-H	207	1.17	8.5	20.32	22.86	PSN10-H	207	1.82	10.2	22.86	25.40
		276	0.57	5.7	22.86	25.40		276	1.36	8.7	22.86	27.94		276	2.08	10.4	25.40	27.94
		345	0.61	6.3	20.32	22.86		345	1.55	9	25.40	27.94		345	2.35	10.5	27.94	33.02
		414	0.68	6.5	20.32	22.86		414	1.70	9.1	25.40	30.48		414	2.57	10.5	30.48	35.56
		483	0.76	6.7	22.86	25.40		483	1.85	9.3	27.94	33.02		483	2.80	10.4	33.02	38.10
360°	PSN5-F	207	0.91	5.0	22.86	27.94	PSN8-F	207	2.31	8.3	20.32	25.40	PSN10-F	207	3.44	9.8	22.86	27.94
		276	1.06	5.4	22.86	27.94		276	2.69	8.6	22.86	27.94		276	4.39	10.1	27.94	33.02
		345	1.21	6.0	22.86	25.40		345	3.07	8.9	25.40	27.94		345	4.88	10.2	30.48	35.56
		414	1.32	6.3	22.86	25.40		414	3.48	9.0	27.94	33.02		414	5.38	10.2	33.02	38.10
		483	1.48	6.5	22.86	25.40		483	4.24	8.9	35.56	40.64		483	5.83	10.2	35.56	43.18

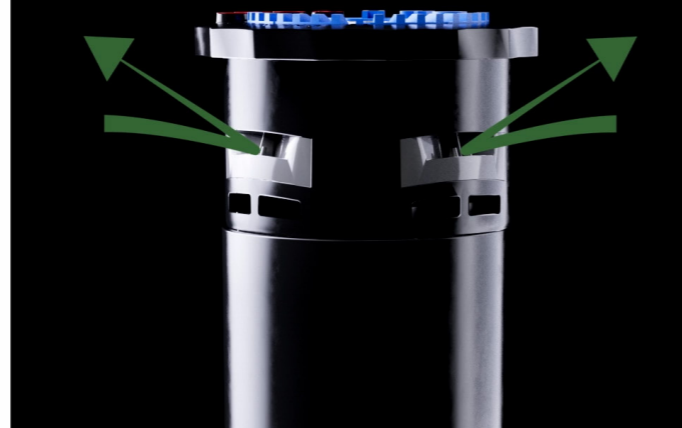
**PERFORMANCE DATA – PSN+ SPRAY NOZZLES WITH DEBRIS GUARD™**

Arc	model # (PSNXXXX)	kPa	lpm	Radius	Precip. Rate (mm./hr.)	Precip. Rate (mm./hr.)	model # (PSNXXXX)	kPa	lpm	Radius	Precip. Rate (mm./hr.)	Precip. Rate (mm./hr.)
90°	PSN12-Q	207	1.29	11.5	25.40	27.94	PSN15-Q	207	2.12	16	20.32	25.40
		276	1.48	11.6	27.94	33.02		276	2.46	15.9	25.40	27.94
		345	1.67	11.5	33.02	38.10		345	2.76	15.8	27.94	33.02
		414	1.85	11.3	38.10	43.18		414	3.07	15.6	33.02	38.10
		483	2.01	11.3	40.64	48.26		483	3.52	15.3	38.10	45.72
180°	PSN12-H	207	2.57	11.4	25.40	30.48	PSN15-H	207	4.32	15.3	22.86	27.94
		276	2.99	11.3	30.48	35.56		276	4.99	15.7	25.40	30.48
		345	3.37	11.5	33.02	38.10		345	5.64	15.6	30.48	35.56
		414	4.05	11.5	40.64	45.72		414	6.21	15.7	33.02	38.10
		483	4.39	11.2	45.72	2.0		483	6.74	15.9	35.56	40.64
360°	PSN12-F	207	5.11	10.8	27.94	33.02	PSN15-F	207	7.34	14.1	22.86	27.94
		276	5.94	10.9	33.02	38.10		276	8.52	14.5	25.40	30.48
		345	6.66	10.9	35.56	40.64		345	9.50	15	27.94	30.48
		414	7.34	11.1	38.10	45.72		414	10.45	14.8	30.48	35.56
		483	7.87	11.0	43.18	48.26		483	11.17	15.1	33.02	35.56

**WITHOUT DEBRIS GUARD™**



**WITH DEBRIS GUARD™**



PSN+ Debris Guard™ technology ensures nozzle longevity, performance and reliability.

**SPECIFICATIONS**

**Operational**

- Radius: 5'-15'
- Operating pressure range: 138-517 kPa
- Recommended operating pressure: 207 kPa
- Flow Rate: 0.15-9.1 lpm
- Nozzle trajectory:
  - 5': 5°
  - 8': 10°
  - 10': 15°
  - 12': 20°
  - 15': 27°
  - Corner and Side Strips: 20°

**Warranty**

- Two years

**PSN+ SERIES SPRAY NOZZLE MODEL LIST**

5' NOZZLE (RED)			8' NOZZLE (GREEN)		
Male	Female	Pattern	Male	Female	Pattern
PSN5T-Q	PSN5-Q	90° Arc	PSN8T-Q	PSN8-Q	90° Arc
PSN5T-H	PSN5-H	180° Arc	PSN8T-H	PSN8-H	180° Arc
PSN5T-F	PSN5-F	360° Arc	PSN8T-F	PSN8-F	360° Arc
10' NOZZLE (BLUE)			12' NOZZLE (BROWN)		
Male	Female	Pattern	Male	Female	Pattern
PSN10T-Q	PSN10-Q	90° Arc	PSN12T-Q	PSN12-Q	90° Arc
PSN10T-H	PSN10-H	180° Arc	PSN12T-H	PSN12-H	180° Arc
PSN10T-F	PSN10-F	360° Arc	PSN12T-F	PSN12-F	360° Arc
15' NOZZLE (BLACK)			SPECIAL PATTERNS (GREY)		
Male	Female	Pattern	Male	Female	Pattern
PSN15T-Q	PSN15-Q	90° Arc	PSN4X18T-SST	PSN4X18-SST	Side Strip
PSN15T-H	PSN15-H	180° Arc	PSN4X30T-SST	PSN4X30-SST	Side Strip
PSN15T-F	PSN15-F	360° Arc	PSN4X15T-LCS	PSN4X15-LCS	Left Corner
			PSN4X15T-RCS	PSN4X15-RCS	Right Corner
			PSN4X9T-LCS	PSN4X9-LCS	Left Corner
			PSN4X9T-RCS	PSN4X9-RCS	Right Corner



*Specifying Information-PSN+ Series Spray Nozzle*

PSNXXXXX-XXX			
Nozzle	Radius	Thread	Arc
PSN	XXXX	X	XXX
PSN-PSN+	5-5' 8-8' 10-10' 12-12' 15-15' 4X30-4'X30' 4X18-4'X18'	T-Toro Male-Threaded Nozzle Blank-Female-Threaded Nozzle	Q-90° H-180° F-360°-Full-circle LCS-Left Corner RCS-Right Corner SST-Side Strip
<b>Example:</b> A male-threaded PSN+ Series Spray with a spray radius of 12' and a 90° arc would be specified as: PSN12T-Q			



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