

Under PRESSURE

BY KYLE BROWN

.....
Stay ahead of water regulations
with more efficient sprinklers.

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2021 SPRINKLER COMPARISON CHARTS

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Stay ahead of water regulations with more efficient sprinklers.

Choosing the right sprinkler for the job in the past year hasn't been as much about picking a contractor's preferred features. Instead, irrigation professionals have had to work with additional points of stress such as increasing regulations and high demand due to the pandemic.

NEW RULES

Water use rules are becoming a major concern for irrigation professionals, especially in some areas of the U.S. where pressure-regulating spray bodies are required, says Jack York, national irrigation product manager for Ewing Irrigation and Landscape Supply, Phoenix.

"We've seen an emerging trend of states enacting the PRS legislation, which prohibits distributors and retailers from selling irrigation equipment that does not have pressure regulation," he says. "Specifically in California, Washington, Colorado, Hawaii and Vermont, spray body sprinklers must now be sold with pressure regulators."

Not only is it important to have the correct sprinkler, an irrigation design with correct sprinkler placement is key as the industry focuses more on water savings over-

all, says Kelsey Jacquard, senior product manager, Hunter Industries, San Marcos, California.

Even if those regulations aren't active or imminent in your state, it could be a good idea to start moving in that direction with equipment choices. Not only would that line up with future statewide water use guidelines, it could work as a way to increase revenue, York says.

"By switching to these pressure-regulating sprinklers, contractors are getting ahead of possible local legislation, which shows a lot of foresight to the industry," he says. "It's a great opportunity for the contractor to offer their customer a far more efficient irrigation system with significant water savings."

It's also a chance for contractors to build revenue with past clients by showing their industry expertise, says Jacquard.

"These new trends allow contractors to revisit existing projects, perform water audits and then become 'water managers' for the sites," she says. "This service not only includes assuming management of the controller but also changing and upgrading the irrigation parts to models that increase efficiency."

Pressure-regulated sprinklers typically use about 25% less water than standard sprinklers, says York. If a nozzle breaks, pressure regulators can save about 70% of the water that might have been lost in a leak. The small incremental cost to homeowners will bring lasting return on investment as water bills decrease.

Sprinklers are seeing some competition from increased installations of drip irrigation, squeezing sprays and rotors out of a job, says Chris Rigby, senior contractor account manager for Rain Bird, Azusa, California.

"Rotary nozzles are becoming more popular due to smaller spaces and worsening soil conditions that require slower precipitation rates to prevent wasteful runoff," he says.

HIGH DEMAND

In the past year, contractors have been trying out new practices with sprinklers, sometimes out of necessity, says Greg Dougherty, director of sales for North America, K-Rain Manufacturing, Riviera Beach, Florida.

"Contractors experimented with more 'featured' products because that's all they could get," he says. "They were trying products with features that they might never have bought otherwise and sticking with those products."

Once those new features had been incorporated into their designs, many contractors were more willing to add those options on an ongoing basis, which is good for the industry because it enhances the overall irrigation knowledge base, he says.

Especially in states where pressure regulation has been mandated, more contractors are looking for spray bodies that make both the spray nozzles and multiple-stream nozzles more efficient by ensuring they operate at the design pressure, Jacquard says.

York says many contractors have been looking beyond the standard rotor for their equipment in the past year, looking for more features in a single offering, such as check valves, pressure regulation and pre-installed nozzles.

Rotary nozzles are also picking up in popularity, with manufacturers recommending that they be installed on pressure-regulating spray bodies for efficient irrigation, York says.

"We're also seeing irrigation designs that are including more subsurface irriga-

tion in shrub beds, where it would have been spray bodies five years ago," he says.

To assist irrigation professionals trying to hold onto more inventory, distributors have been offering longer dating and flexible credit terms, says Dougherty.

SMART CHOICES

Pop-up height is a major factor in selecting the right sprinkler for the job, says Jacquard.

"Make sure that its pop-up height is sufficient to get the nozzle into an unobstructed position, allowing it to be as efficient as possible," says Jacquard. "If the nozzle is

blocked by tall turf, no matter if the body is the correct pressure and the correct nozzle is selected, it will still perform poorly."

When planning for pop-up height, remember that the lawn height will change between visits to the property, says Rigby.

"For example, you may need a 6-inch pop-up height rather than a 4-inch, because grass will be tall before mowing," he says.

Also, when working with reclaimed water, make certain that the heads you're using are rated for that use, he says.

Keeping the overall irrigation design in mind is also important to get the most out

of your equipment, York says. "Even if it's a rough sketch of the property, a proper irrigation design can save the contractor headaches and also prevent multiple trips between the job site and the distributor," he says. "By determining the turf area and plantings as part of the design process, contractors can develop a properly designed irrigation system that's water-efficient and leverages the right sprinklers for the project." 

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Editor's note: Information presented in these charts was provided by manufacturers. Please contact the manufacturer directly for more details.

Legend

B.....	brass	HS.....	high speed	sh.....	spray head
CT.....	continuous	LA.....	low angle	SS.....	stainless steel
CV.....	check valve	NP.....	nonpositive	STD.....	standard
F.....	full	ON.....	opposing nozzle	ZDC.....	zinc die cast
FC.....	full circle	P.....	part		
FSO.....	flow shut-off	Pl.....	plastic		

Thanks to Ewing for sponsoring this year's sprinkler comparison charts.



To download a copy of these comparison charts, go to www.igin.com/2021-sprinkler-comparison-charts.

ROTATING NOZZLES

Manufacturer	Model	Series	Nozzle	M or F thread	Pattern (degrees)	Operating pressure (psi)	Radius (ft.)	Discharge rate (gpm)	Precipitation rate (in./hr.)
Hunter	MP 1000 – options available	MP1000	adj. arc/radius	M or F	90-360	30-55	8-15	0.17-1.01	0.41-0.5
Hunter	MP 2000 – options available	MP2000	adj. arc/radius	M or F	90-360	25-55	13-21	0.34-1.74	0.4-0.5
Hunter	MP 3000 – options available	MP3000	adj. arc/radius	M or F	90-360	25-55	22-30	0.71-4.27	0.39-0.53
Hunter	MP 3500 90-210	MP3000	adj. arc/radius	F	90-210	25-55	31-35	1.04-3.94	0.39-0.53
Hunter	MP Corner	MP Specialty	adj. arc/radius	M or F	45-105	30-55	8-15	0.17-0.53	—
Hunter	MP Left Strip	MP Specialty	adj. radius	M or F	strip	30-55	5×15	0.19-0.26	—
Hunter	MP Side Strip	MP Specialty	adj. radius	M or F	strip	30-55	5×30	0.38-0.51	—
Hunter	MP Right Strip	MP Specialty	adj. radius	M or F	strip	30-55	5×15	0.19-0.26	—
Hunter	MP800SR – options available	MP800SR	adj. arc/radius	F	90-360	30-55	6-12	0.16-0.98	0.72-1.03
Hunter	MP815 – options available	MP815	adj. arc/radius	F	90-360	30-55	8-16	0.42-2.26	0.79-1.0
K-Rain	RN100 – options available	Rotary Nozzle	adj. arc/radius, fixed 360	F	90-270, fixed 360	30-50	13-15	0.22-1.2	0.46-0.51
K-Rain	RN200 – options available	Rotary Nozzle	adj. arc/radius, fixed 360	F	90-270, fixed 360	30-50	16-19	0.34-1.88	0.45-0.51
K-Rain	RN300 – options available	Rotary Nozzle	adj. arc/radius, fixed 360	F	90-270, fixed 360	30-50	26-30	0.8-3.7	0.39-0.44
K-Rain	RNS-RES-515	Rotary Nozzle	fixed	F	fixed-right end strip	30-50	5×15	0.3-0.4	—
K-Rain	RNS-LES-515	Rotary Nozzle	fixed	F	fixed-left end strip	30-50	5×15	0.3-0.4	—
K-Rain	RNS-SS-530	Rotary Nozzle	fixed	F	fixed-side strip	30-50	5×30	0.5-0.7	—
K-Rain	RN-100ADJ	Rotary Nozzle	adj. arc/radius	F	80-360	30-50	13-15	0.22-1.2	0.49-0.51
K-Rain	RN-200ADJ	Rotary Nozzle	adj. arc/radius	F	80-360	30-50	16-19	0.34-1.9	0.49-0.51
K-Rain	RN-300ADJ	Rotary Nozzle	adj. arc/radius	F	80-360	30-50	26-29	0.8-3.8	0.41-0.48
Rain Bird	R-VAN14 – options available	R-VAN	8 to 14 ft. adj. R-VAN	F	45-360	30-55	8-14	0.28-1.45	0.6-0.67
Rain Bird	R-VAN18 – options available	R-VAN	13 to 18 ft. adj. R-VAN	F	45-360	30-55	13-18	0.42-2.11	0.6-0.68
Rain Bird	R-VAN24 – options available	R-VAN	17 to 24 ft. adj. R-VAN	F	45-360	30-55	17-24	0.6-3.74	0.6-0.63
Rain Bird	R-VAN-LCS	R-VAN	left corner strip R-VAN	F	left strip	30-55	5×15	0.18-0.28	0.56-0.64
Rain Bird	R-VAN-RCS	R-VAN	right corner strip R-VAN	F	right strip	30-55	5×15	0.18-0.28	0.56-0.64
Rain Bird	R-VAN-SST	R-VAN	side strip R-VAN	F	side strip	30-55	5×30	0.36-0.56	0.56-0.64
Toro	PRN-TA	Precision	gear-driven rotary	M	45-270	20-75	14-26	0.17-2.6	0.6
Toro	PRN-TF	Precision	gear-driven rotary	M	360	20-75	14-26	1.81-3.68	0.6

VARIABLE ARC NOZZLES

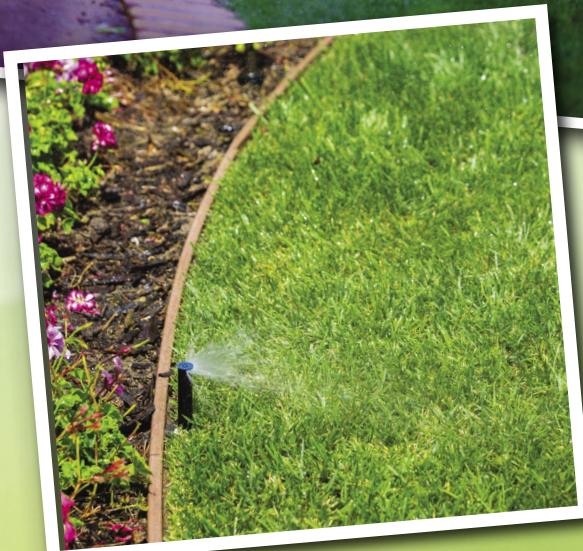
Inlet Size (inches)	M or F Thread	Manufacturer	Model	Series	Nozzle	Pattern (degrees)	Operation Pressure (PSI)	Radius	Discharge Rate (GPM)	Precipitation Rate (in./hr.)
n/a	F	Hunter	4A	Pro-adjustable	4-ft. adj.	0-360	20-40	3-4	0.11-0.9	~4.0
n/a	F	Hunter	6A	Pro-adjustable	6-ft. adj.	0-360	20-40	4-6	0.15-1.4	~3.5
n/a	F	Hunter	8A	Pro-adjustable	8-ft. adj.	0-360	20-40	7-9	0.18-2	~2.65
n/a	F	Hunter	10A	Pro-adjustable	10-ft. adj.	0-360	20-40	9-11	0.2-2.36	~1.9
n/a	F	Hunter	12A	Pro-adjustable	12-ft. adj.	0-360	20-40	11-13	0.25-3.36	~1.7
n/a	F	Hunter	15A	Pro-adjustable	15-ft. adj.	0-360	20-40	14-17	0.39-4.52	~1.6
n/a	F	Hunter	17A	Pro-adjustable	17-ft. adj.	0-360	20-40	16-19	0.49-5.52	~1.6
5/8	F	Hydro-Rain	04-ADJ	HRN-200	4-ft. adj.	0-360	15-70	4-6	0.61-3.36	8.97-17.03
5/8	F	Hydro-Rain	08-ADJ	HRN-200	8-ft. adj.	0-360	15-70	7-9	0.39-2.11	2.33-3.49
5/8	F	Hydro-Rain	10-ADJ	HRN-200	10-ft. adj.	0-360	15-70	9-11	0.39-2.11	1.68-2.11
5/8	F	Hydro-Rain	12-ADJ	HRN-200	12-ft. adj.	0-360	15-70	11-13	0.51-2.6	1.37-1.71
5/8	F	Hydro-Rain	15-ADJ	HRN-200	15-ft. adj.	0-360	15-70	13-16	0.59-3.17	1.19-1.54
5/8	F	Hydro-Rain	18-ADJ	HRN-200	18-ft. adj.	0-360	15-70	15-19	0.68-3.84	1.02-1.34
n/a	F	Irritrol	PRO-VAN8	Variable Arc	8-ft. VAN	0-360	20-50	8-10	0.53-2.78	2.59-5.42
n/a	F	Irritrol	PRO-VAN10	Variable Arc	10-ft. VAN	0-360	20-50	10-13	0.62-3.59	1.19-4.45
n/a	F	Irritrol	PRO-VAN12	Variable Arc	12-ft. VAN	0-360	20-50	11-14	0.75-3.62	1.51-3.74
n/a	F	Irritrol	PRO-VAN15	Variable Arc	15-ft. VAN	0-360	20-50	14-17	1.0-4.31	1.18-3.08
n/a	F	Irritrol	PRO-VAN17	Variable Arc	17-ft. VAN	0-360	20-50	15-18	1.2-4.6	0.97-2.92
n/a	F	K-Rain	KVF8	High Efficiency KVF Nozzles	8-ft. adj.	0-360	20-40	9-10	0.39-2.3	1.62-2.59
n/a	F	K-Rain	KVF10	High Efficiency KVF Nozzles	10-ft. adj.	0-360	20-40	10-12	0.45-2.8	1.65-2.16
n/a	F	K-Rain	KVF12	High Efficiency KVF Nozzles	12-ft. adj.	0-360	20-40	12-14	0.65-3.5	1.47-2.04
n/a	F	K-Rain	KVF15	High Efficiency KVF Nozzles	15-ft. adj.	0-360	20-40	14-17	0.75-4.6	1.45-1.88
n/a	F	K-Rain	KVF17	High Efficiency KVF Nozzles	17-ft. adj.	0-360	20-40	17-18	0.85-4.8	1.13-1.65
n/a	M	K-Rain	KV8	KV Nozzles	8-ft. adj.	0-360	20-50	7-9	0.3-2.3	1.9-3.82
n/a	M	K-Rain	KV10	KV Nozzles	10-ft. adj.	0-360	20-50	10-13	0.7-3.5	1.87-3.68
n/a	M	K-Rain	KV12	KV Nozzles	12-ft. adj.	0-360	20-50	11-15	1.1-3.9	2.02-3.42
n/a	M	K-Rain	KV15	KV Nozzles	15-ft. adj.	0-360	20-50	14-19	1.3-5.3	1.58-2.57
n/a	M	K-Rain	KV17	KV Nozzles	17-ft. adj.	0-360	20-50	15-20	1.7-5.4	1.27-2.47
1/2	F	Rain Bird	HE-VAN-08	HE-VAN Series	8-ft. HE-VAN	0-360	15-30	5-8	0.21-1.17	1.76-3.19
1/2	F	Rain Bird	HE-VAN-10	HE-VAN Series	10-ft. HE-VAN	0-360	15-30	7-10	0.32-1.78	1.72-2.48
1/2	F	Rain Bird	HE-VAN-12	HE-VAN Series	12-ft. HE-VAN	0-360	15-30	9-12	0.42-2.37	1.58-1.99
1/2	F	Rain Bird	HE-VAN-15	HE-VAN Series	15-ft. HE-VAN	0-360	15-30	11-15	0.65-3.7	1.58-2.08
1/2	F	Rain Bird	4VAN	VAN	4-ft. VAN	0-330	15-30	3-4	0.21-0.88	4.93-10.27
1/2	F	Rain Bird	6VAN	VAN	6-ft. VAN	0-330	15-30	4-6	0.26-1.2	3.21-6.34
1/2	F	Rain Bird	8VAN	VAN	8-ft. VAN	0-330	15-30	6-8	0.51-1.7	2.79-5.46
1/2	F	Rain Bird	10VAN	VAN	10-ft. VAN	0-360	15-30	7-10	0.48-2.6	2.5-3.8
1/2	F	Rain Bird	12VAN	VAN	12-ft. VAN	0-360	15-30	9-12	0.39-2.36	1.58-1.86
1/2	F	Rain Bird	15VAN	VAN	15-ft. VAN	0-360	15-30	11-15	0.65-3.7	1.58-2.07
1/2	F	Rain Bird	18VAN	VAN	18-ft. VAN	0-360	15-30	14-18	1.05-5.32	1.59-2.07
n/a	M	Toro	TVAN8	Variable Arc	8-ft. VAN	0-360	20-50	7-9	0.58-1.96	2.08-5.26
n/a	M	Toro	TVAN10	Variable Arc	10-ft. VAN	0-360	20-50	9-10	0.59-2.69	2.06-4.18
n/a	M	Toro	TVAN12	Variable Arc	12-ft. VAN	0-360	20-50	10-13	0.76-3.47	2.00-3.38
n/a	M	Toro	TVAN15	Variable Arc	15-ft. VAN	0-360	20-50	13-16	1.06-4.33	1.40-2.88
n/a	M	Toro	TVAN17	Variable Arc	17-ft. VAN	0-360	20-50	15-18	1.25-4.71	1.02-2.57
1/2	F	Weathermatic	6700	6700	6-12, 7LA, 10LA	20-360	25-60	23-43	1.5-6.3	0.24-1.3

ROTORS

Inlet size (in.)	Manufacturer	Model	Series	Nozzle	Pattern (degrees)	Operation pressure (psi)	Radius (ft.)	Discharge rate (gpm)	Precipitation rate (in./hr.)	Gear drive
1/2	Hunter	SRM	4" Plastic	8PI	adj. 40-360	30-50	15-34	0.42-4.3	~ 0.45	yes
1/2	Hunter	PGJ	Shrub, 4", 6", 12" Plastic	8 PI	adj. 40-360	30-50	15-37	0.64-5.3	~ 0.6	yes
3/4	Hunter	PGP-ADJ	4" Plastic	27 PI	adj. 40-360	30-70	22-52	0.5-14.1	~ 0.4	yes
3/4	Hunter	PGP Ultra	Shrub, 4", 6", 12" Plastic	34 PI	adj. 50-360	30-70	22-52	0.36-14.8	~ 0.4	yes
3/4	Hunter	I-20 - options available	Shrub, 4", 6", 12" Plastic or stainless	30 PI	adj. 50-360	30-70	17-47	0.36-14.8	~ 0.4	yes
1	Hunter	I-25 - options available	4", 6" Plastic or stainless	12 PI	adj. 50-360	40-100	40-71	3.8-31.5	~ 0.4	yes
1	Hunter	I-40 - options available	4", 6" Stainless	6 PI	adj. 50-360	40-100	45-76	70-33.7	~ 0.4	yes
1	Hunter	I-50 - options available	4", 6" Stainless	6 PI	adj. 50-360	40-100	45-76	70-33.7	~ 0.4	yes
1	Hunter	I-80 - options available	3-3/4" Plastic	7 PI	adj. 60-360	40-100	63-97	20.2-59.6	~ 0.6	yes
1 1/2	Hunter	I-90 - options available	3" Plastic	8 PI	adj. 40-360	60-100	66-103	29.5-83.3	~ 0.6	yes
3/4	Hydro-Rain	HRX-075-ADJ	HRX	5 STD, 5 LA	40-360	20-70	24-52	0.7-9.6	0.18-1.03	yes
1/2	Irritrol	430R	430R	PI	partial/FC	30-50	20-35	0.8-3.4	0.28-0.65	yes
3/4	Irritrol	550R	550R	PI	partial/FC	25-65	25-50	0.74-9.7	0.2-0.99	yes
1/2	K-Rain	13003	MiniPro 4-in.	5 STD	adj. 40-360	20-70	18-33	0.8-3.8	0.26-0.60	yes
1/2	K-Rain	13006	MiniPro 6-in.	5 STD	adj. 40-360	20-70	18-33	0.8-3.8	0.26-0.60	yes
1/2	K-Rain	13012	MiniPro 12-in.	5 STD	adj. 40-360	20-70	18-33	0.8-3.8	0.26-0.60	yes
1/2	K-Rain	RPS50	RPS50	5 STD	adj. 40-360	20-70	18-33	0.8-3.8	0.26-0.60	yes
3/4	K-Rain	RPS75 - options available	RPS75	8 STD, 4 LA	adj. 40-360, 360 continuous	30-70	22-51	0.7-8.3	0.16-1.01	yes
3/4	K-Rain	60003	RPS Select	4 built-in	adj. 40-360	30-70	33-46	1.3-6.8	0.23-0.71	yes
3/4	K-Rain	RPS75i - options available	RPS 75i	9 STD, 4 LA	adj. 40-360, 360 continuous	30-70	26-48	0.44-9.7	0.22-9.8	yes
3/4	K-Rain	11003	ProPlus	9 STD, 4 LA	adj. 40-360 CT	20-70	22-50	0.5-10	0.12-0.87	yes
3/4	K-Rain	10003 - options available	SuperPro	9 STD, 4 LA	adj. 40-360 CT	20-70	26-49	1.2-11.1	0.21-1.17	yes
1	K-Rain	14053 - options available	ProSport High Speed	6 STD	adj. 40-360 CT	40-90	45-77	5.9-32.5	0.61-1.56	yes
1	K-Rain	14003 - options available	ProSport	6 STD	adj. 40-360 CT	40-90	45-77	51-29.2	0.48-1.56	yes
1/2	Rain Bird	3500SPCSAM	3500 shrub PC w/CV	0.75-4	40-360	25-55	15-35	0.54-4.6	0.37-0.83	yes
1/2	Rain Bird	3504 - options available	3500 4-in. PC	0.75-4	40-360	25-55	15-35	0.54-4.6	0.37-0.83	yes
3/4	Rain Bird	5000SPCSAM - options available	5000 shrub PC w/CV	1-8 Std, 1-3 LA, MPR	40-360	25-65	25-50	0.76-9.63	0.2-1.5	yes
3/4	Rain Bird	5004 (PC or FC) - options available	5000 (PC or FC) 4-in.	1-8 Std, 1-3 LA, MPR	40-360	25-65	25-50	0.76-9.63	0.2-1.5	yes
3/4	Rain Bird	5006PC - options available	5000 6-in.	1-8 Std, 1-3 LA, MPR	40-360	25-65	25-50	0.73-9.63	0.2-1.5	yes
3/4	Rain Bird	5012+PCSAMR - options available	5000+ 12-in. w/PR	1-8 Std, 1-3 LA, MPR	40-360	25-65	25-50	0.73-9.63	0.2-1.5	yes
1	Rain Bird	6504 (PC or FC) - options available	Falcon 6504 (PC or FC) w/CV	4-18	40-360	30-90	39-65	2.9-21.7	0.37-1.31	yes
1	Rain Bird	8005 - options available	8005 P/FC w/CV	4-26	50-360	50-100	39-81	3.8-36.3	0.48-1.28	yes
1/2	Toro	Mini8-4P	Mini 8	PI	partial/FC	30-60	20-35	0.8-3.4	0.24-0.54	yes
3/4	Toro	Stream Rotor	300	PI	9 arcs	35-50	15-33	0.57-7.5	0.33-1.35	yes
3/4	Toro	T5P-RS	T5 RapidSet	PI	partial/FC	25-65	25-50	0.76-9.63	0.2-0.99	yes
1	Toro	T7P	T7	PI	partial/FC	40-100	40-75	1.7-30.6	0.62-1.42	yes
1	Toro	640	640	PI	partial/FC	40-90	47-67	6-25	0.26-4.91	yes
1	Toro	TS90	TS90	PI	partial/FC	40-100	53-95	14-61.5	0.46-0.63	yes
2	Toro	TS170V	TS170	PI	partial/FC	60-115	111-177	113-303	n/a	piston
2 1/2	Toro	P2S	P2	PI	partial/FC	60-115	105-180	70-267	n/a	piston
3	Toro	P2M	P2	PI	partial/FC	70-115	138-226	131-535	n/a	piston
3/4	Weathermatic	T3	T	1,15, 2, 3, 3.5, 4, 6, 8, 9, 13	40-360	30-70	28-61	0.7-14.9	0.17-0.89	yes
3/4	Weathermatic	T3	T	2.0LA, 2.5LA, 3.5LA, 4.5LA	40-360	30-50	29-37	1.6-4.1	0.34-0.67	yes
3/4	Weathermatic	T3-36	T	1,15, 2, 3, 3.5, 4, 6, 8, 9, 13	360	30-70	28-61	0.7-14.9	0.17-0.89	yes
3/4	Weathermatic	T3-36	T	2.0LA, 2.5LA, 3.5LA, 4.5LA	360	30-50	29-37	1.6-4.1	0.34-0.67	yes
3/4	Weathermatic	T3SS	T-SS	1,15, 2, 3, 3.5, 4, 6, 8, 9, 13	40-360	30-70	28-61	0.7-14.9	0.17-0.89	yes
3/4	Weathermatic	T3SS	T-SS	2.0LA, 2.5LA, 3.5LA, 4.5LA	40-360	30-50	29-37	1.6-4.1	0.34-0.67	yes

ROTORS (continued)

Inlet size (in.)	Manufacturer	Model	Series	Nozzle	Pattern (degrees)	Operation pressure (psi)	Radius (ft.)	Discharge rate (gpm)	Precipitation rate (in./hr.)	Gear drive
3/4	Weathermatic	T3-36SS	T-SS	1,15,2,3,3.5,4,6,8	360	30-70	28-61	0.7-14.9	0.17-0.89	yes
3/4	Weathermatic	T3-36SS	T-SS	2.0LA,2.5LA,3.5LA,4.5LA	360	30-50	29-37	1.6-4.1	0.34-0.67	yes
3/4	Weathermatic	T3S	T-shrub	1,15,2,3,3.5,4,6,8,9,13	40-360	30-70	28-61	0.7-14.9	0.17-0.89	yes
3/4	Weathermatic	T3S	T-shrub	2.0LA,2.5LA,3.5LA,4.5LA	40-360	30-50	29-37	1.6-4.1	0.34-0.67	yes
3/4	Weathermatic	T35	T	1,15,2,3,3.5,4,6,8,9,13	40-360	30-70	28-61	0.7-14.9	0.17-0.89	yes
3/4	Weathermatic	T35	T	2.0LA,2.5LA,3.5LA,4.5LA	40-360	30-50	29-37	1.6-4.1	0.34-0.67	yes
1	Weathermatic	CT70	CT	71-73	40-360	40-80	49-61	81-17.8	0.65-1.06	yes
3/4	Weathermatic	6000	6000	4,5,6,7,8,9,10,11	40-360	20-65	30-51	1.0-9.5	0.21-0.88	yes
3/4	Weathermatic	6000	6000	4LA,5LA,6LA,7LA,8LA, 9LA,10LA	40-360	20-65	26-42	0.9-7.5	0.26-1.02	yes
1	Weathermatic	6500	6500	61,62,63,64	40-360	45-75	44-60	2.8-13.2	0.23-0.84	yes
1	Weathermatic	6513	6500	61,62,63,64	40-360	45-75	43-51	2.8-13.2	0.29-1.13	yes
1	Weathermatic	7500	7500	3,4,5,6,7,8	40-360	45-90	53-74	9.4-27.5	0.64-1.21	yes
1	Weathermatic	7513	7500	3,4,5,6,7,8	40-360	45-90	48-64	9.4-27.5	0.79-1.61	yes
1	Weathermatic	CT70	CT	74,75	40-360	60-90	59-74	16.6-28	0.92-1.15	yes
1	Weathermatic	CT70-36	CT	71,72,73,74,75	360	40-90	49-74	81-28	0.65-1.15	yes
1	Weathermatic	CT70SS	CT SS	71,72,73,74,75	40-360	40-90	49-74	81-28	0.65-1.15	yes
1	Weathermatic	CT70-36SS	CT SS	71,72,73,74,75	360	40-90	49-74	81-28	0.65-1.15	yes



Photos: Ewing Irrigation & Landscape Supply

SPRAY HEADS

Inlet size (in.)	Manufacturer	Model	Series	Nozzle	M or F Thread	Pattern (degrees)	Operation Pressure (PSI)	Radius (in feet)	Discharge Rate (GPM)	Precipitation Rate (in./hr.)	Gear Drive
1/2	Hit Products	907T	900 Telescopic	fixed/adj.	M	20-360	20-70	5-17	0.02-4.2	2.01-2.7	sh
1/2	Hit Products	913T	900 Telescopic	fixed/adj.	M	20-360	25-70	5-17	0.02-4.2	2.01-2.7	sh
1/2	Hit Products	902-906	900	fixed/adj.	M/F	20-360	15-70	5-17	0.02-4.2	2.01-2.7	sh
1/2	Hit Products	904 CKV	900	fixed/adj.	M/F	20-360	25-70	5-17	0.02-4.2	2.01-2.7	sh
1/2	Hit Products	912	900	fixed/adj.	M/F	20-360	15-70	5-17	0.02-4.2	2.01-2.7	sh
1/2	Hit Products	702-706	700	fixed/adj.	M/F	20-360	15-70	5-17	0.02-4.2	2.01-2.7	sh
1/2	Hit Products	712	700	fixed/adj.	M/F	20-360	15-70	5-17	0.02-4.2	2.01-2.7	sh
1/2	Hit Products	HP02	HP	fixed/adj.	M	20-360	25-70	5-17	0.02-4.2	2.01-2.7	sh
1/2	Hit Products	HP04	HP	fixed/adj.	M	20-360	25-70	5-17	0.02-4.2	2.01-2.7	sh
1/2	Hunter	PS Ultra	n/a	female	F	adj.	20-70	8-17	varies	1.5	no
1/2	Hunter	Pro-Spray	n/a	female	F	fixed and adj.	15-100	2-17	varies	1.5	no
1/2	Hunter	Pro-Spray PRS30	n/a	female	F	fixed and adj.	15-100	2-17	varies	1.5	no
1/2	Hunter	Pro-Spray PRS40	n/a	female	F	fixed and adj.	15-100	2-17	varies	1.5	no
1/2	Hydro-Rain	HRN-100-SA	Shrub Adapter	fixed/adj.	F	0-360	15-70	4-18	0.4-4.4	1.2-6	no
1/2	Hydro-Rain	HRS-150-04	4-in. Slim Lin	fixed/adj.	F	0-360	15-70	4-18	0.4-4.4	1.2-6	no
1/2	Hydro-Rain	HRS-200-02	2-in. Pro	fixed/adj.	F	0-360	15-70	4-18	0.4-4.4	1.2-6	no
1/2	Hydro-Rain	HRS-200-03	3-in. Pro	fixed/adj.	F	0-360	15-70	4-18	0.4-4.4	1.2-6	no
1/2	Hydro-Rain	HRS-200-04	4-in. Pro	fixed/adj.	F	0-360	15-70	4-18	0.4-4.4	1.2-6	no
1/2	Hydro-Rain	HRS-200-06	6-in. Pro	fixed/adj.	F	0-360	15-70	4-18	0.4-4.4	1.2-6	no
1/2	Hydro-Rain	HRS-200-12	12-in. Pro	fixed/adj.	F	0-360	15-70	4-18	0.4-4.4	1.2-6	no
1/2	Hydro-Rain	HRS-200-SA-PR	Shrub Head w/ Adj. PR	all spray/rotary nozzles	F	0-360	15-70	4-18	0.4-4.4	1.2-1	no
1/2	Hydro-Rain	HRS-200-02-PR	2-in Adj. PR & Check Valve	all spray/rotary nozzles	F	0-360	15-70	4-18	0.4-4.4	1.2-1	no
1/2	Hydro-Rain	HRS-200-03-PR	3-in. Adj. PR & Check Valve	all spray/rotary nozzles	F	0-360	15-70	4-18	0.4-4.4	1.2-1	no
1/2	Hydro-Rain	HRS-200-04-PR	4-in. Adj. PR & Check Valve	all spray/rotary nozzles	F	0-360	15-70	4-18	0.4-4.4	1.2-1	no
1/2	Hydro-Rain	HRS-200-06-PR	6-in. Adj. PR & Check Valve	all spray/rotary nozzles	F	0-360	15-70	4-18	0.4-4.4	1.2-1	no
1/2	Hydro-Rain	HRS-200-12-PR	12-in Adj. PR & Check Valve	all spray/rotary nozzles	F	0-360	15-70	4-18	0.4-4.4	1.2-1	no
1/2	Irritrol	I-PRO400-I-PRO1200	I-PRO	female thread	M	fixed	20-50	5-17	.06-4.75	0.97-5.42	no
1/2	K-Rain	73001	3-in. K-Spray	male thread	F	fixed and adj.	20-70	8-17	0.3-5.4	1.9-3.82	no
1/2	K-Rain	74001	4-in. K-Spray	male thread	F	fixed and adj.	20-70	8-17	0.3-5.4	1.9-3.82	no
1/2	K-Rain	76001	6-in. K-Spray	male thread	F	fixed and adj.	20-70	8-17	0.3-5.4	1.9-3.82	no
1/2	K-Rain	71201	12-in. K-Spray	male thread	F	fixed and adj.	20-70	8-17	0.3-5.4	1.9-3.82	no
1/2	K-Rain	NP2	2-in. NP	female threaded nozzles	M	fixed and adj.	20-70	8-17	0.39-4.8	1.13-2.04	no
1/2	K-Rain	NP4	4-in. NP	female threaded nozzles	M	fixed and adj.	20-70	8-17	0.39-4.8	1.13-2.04	no
1/2	K-Rain	78002 - options available	2-in. Pro-S	female threaded nozzles	M	fixed and adj.	20-70	8-17	0.39-4.8	1.13-2.04	no
1/2	K-Rain	78003 - options available	3-in. Pro-S	female threaded nozzles	M	fixed and adj.	20-70	8-17	0.39-4.8	1.13-2.04	no
1/2	K-Rain	78004 - options available	4-in. Pro-S	female threaded nozzles	M	fixed and adj.	20-70	8-17	0.39-4.8	1.13-2.04	no
1/2	K-Rain	78006 - options available	6-in. Pro-S	female threaded nozzles	M	fixed and adj.	20-70	8-17	0.39-4.8	1.13-2.04	no
1/2	K-Rain	78012 - options available	12-in. Pro-S	female threaded nozzles	M	fixed and adj.	20-70	8-17	0.39-4.8	1.13-2.04	no
1/2	K-Rain	78004-PR30	4-in. Pro-S PR30	female threaded nozzles	M	fixed and adj.	20-100	8-17	varies	1.13-2.04	no
1/2	K-Rain	78006-PR30	6-in. Pro-S PR30	female threaded nozzles	M	fixed and adj.	20-100	8-17	varies	1.13-2.04	no
1/2	K-Rain	78012-PR30	12-in. Pro-S PR30	female threaded nozzles	M	fixed and adj.	20-100	8-17	varies	1.13-2.04	no
1/2	K-Rain	78004-PR40	4-in. Pro-S PR40	female threaded nozzles	M	fixed and adj.	20-100	8-17	varies	1.13-2.04	no
1/2	K-Rain	78006-PR40	6-in. Pro-S PR40	female threaded nozzles	M	fixed and adj.	20-100	8-17	varies	1.13-2.04	no
1/2	K-Rain	78012-PR40	12-in. Pro-S PR40	female threaded nozzles	M	fixed and adj.	20-100	8-17	varies	1.13-2.04	no
1/2	Rain Bird	1804 - options available	4-in. 1800	all spray/rotary nozzles	F	fixed and adj.	15-70	2.5-24	varies	varies	no
1/2	Rain Bird	1806 - options available	6-in. 1800	all spray/rotary nozzles	F	fixed and adj.	15-70	2.5-24	varies	varies	no
1/2	Rain Bird	1812 - options available	12-in. 1800	all spray/rotary nozzles	F	fixed and adj.	15-70	2.5-24	varies	varies	no
1/2	Rain Bird	RD04 - options available	4-in. RD1800	all spray/rotary nozzles	F	fixed and adj.	15-100	2.5-24	varies	varies	no
1/2	Rain Bird	RD06 - options available	6-in. RD1800	all spray/rotary nozzles	F	fixed and adj.	15-100	2.5-24	varies	varies	no
1/2	Rain Bird	RD12 - options available	12-in. RD1800	all spray/rotary nozzles	F	fixed and adj.	15-100	2.5-24	varies	varies	no
1/2	Rain Bird	PABS Shrub Adapters - options available	Shrub Adapter	all spray/rotary nozzles	F	fixed and adj.	15-70	2.5-24	varies	varies	no
1/2	Rain Bird	US400	UNI-Spray (Body Only)	all spray/rotary nozzles	F	fixed and adj.	15-70	2.5-24	varies	varies	no
1/2	Rain Bird	US410	4-in. UNI-Spray w/Pre-Installed 10VAN	10 ft. VAN	F	0-360	15-70	7-10	0.48-2.6	2.5-3.8	no

SPRAY HEADS (continued)

Inlet size (in.)	Manufacturer	Model	Series	Nozzle	M or F Thread	Pattern (degrees)	Operation Pressure (PSI)	Radius (in feet)	Discharge Rate (GPM)	Precipitation Rate (in./hr.)	Gear Drive
1/2	Rain Bird	US412	4-in. UNI-Spray w/Pre-Installed 12VAN	12 ft. VAN	F	0-360	15-70	9-12	0.39-2.36	1.58-1.86	no
1/2	Rain Bird	US415	4-in. UNI-Spray w/Pre-Installed 15VAN	15 ft. VAN	F	0-360	15-70	11-15	0.65-3.7	1.58-2.07	no
1/2	Rain Bird	US418	4-in. UNI-Spray w/Pre-Installed 18VAN	18 ft. VAN	F	0-360	15-70	14-18	1.05-5.32	1.59-2.07	no
1/2	Toro	570Z - options available	570Z Standard	Precision/MPR/TVAN	F	0-360	15-75	0-26	0.04-4.58	0.6-1.73	no
1/2	Toro	LPS 2XX	LPS 200 with TVAN nozzle	TVAN	F	0-360	20-50	0-26	0.04-4.58	0.6-1.73	no
1/2	Toro	LPS 4XX	LPS 400 with TVAN nozzle	TVAN	F	0-360	20-50	0-26	0.04-4.58	0.6-1.73	no
n/a	Toro	O-T-X-X	Precision	fixed spray	M	60-360	20-75	5-15	0.04-2.4	1	no
n/a	Toro	O-X-X	Precision	fixed spray	F	60-360	20-75	5-15	0.04-2.4	1	no
n/a	Toro	O-T-X-XP	Precision	pressure-comp. fixed spray	M	60-360	20-75	5-15	0.06-2.68	1	no
n/a	Toro	O-X-XP	Precision	pressure-comp. fixed spray	F	60-360	20-75	5-15	0.06-2.68	1	no
n/a	Toro	XX-XXX-PC	MPR PLUS	pressure-comp. fixed spray	M	90-360	20-75	5-15	0.05-4.58	1.5	no
n/a	Toro	TVANXX	TVAN	variable arc	M	0-360	20-50	8-17	0.58-4.71	2.2	no
1/2	Weathermatic	MAX4 - options available	Pop-up	various	F	fixed 90-360/adj. 0-360	15-100	5-18	0.3-7.5	1.18-5.74	no
1/2	Weathermatic	MAX6 - options available	Pop-up	various	F	fixed 90-360/adj. 0-360	15-100	5-18	0.3-7.5	1.18-5.74	no
1/2	Weathermatic	MAX12 - options available	Pop-up	various	F	fixed 90-360/adj. 0-360	15-100	5-18	0.3-7.5	1.18-5.74	no
1/2	Weathermatic	MAX8	Shrub Adapter	various	F or M	fixed 90-360/adj. 0-360	15-70	5-18	0.3-7.5	1.18-5.74	no

IMPACT SPRINKLERS

Inlet Size (Inches)	Manufacturer	Model	Series	Nozzle	Pattern	Operation Pressure (PSI)	Radius (in feet)	Discharge Rate (GPM)	Precipitation Rate (in./hr.)	Gear Drive
1/2	Buckner	17023W	n/a	B	F	25-60	33-44	128-5.48	n/a	no
1/2	Buckner	17023R	n/a	B	F	25-60	33-44	128-5.48	n/a	no
1/2	Buckner	170W-23W	n/a	B	F	25-60	31-41	0.33-3.51	0.03-0.16	no
1/2	Buckner	170W-23R	n/a	B	F	25-60	29-38	0.56-2.67	0.05-0.17	no
1/2	Buckner	170W-15RP	n/a	B	F	25-50	25-35	0.56-2.45	0.04-0.27	no
1/2	Buckner	90SD	n/a	B	F/P	25-55	35-48	3.54-5.44	0.28-0.35	no
1/2	Buckner	65P	n/a	PI	F/P	25-60	33-47	3.54-5.64	0.34-0.29	no
1/2	Buckner	90DZ	n/a	ZDC	F/P	25-55	34-47	2.11-5.64	0.2-0.28	no
3/4	Buckner	2000SX	n/a	B	F	35-80	40-60	2.53-15.71	0.32-0.56	no
3/4	Buckner	261SOX	n/a	B	F/P	30-60	41-50	3.94-13.73	0.26-0.61	no
1	Buckner	300SAX	n/a	B	F	40-80	47-80	14.61-46.59	0.47-0.89	no
1	Buckner	350SAX	n/a	B	F	40-80	47-80	6.32-46.59	0.29-0.73	no
1	Buckner	360SA	n/a	B	F/P	35-100	49-82	7.75-44.01	0.36-0.73	no
1 1/4	Buckner	AII20	n/a	B	F	55-95	75-113	24.9-121	0.52-1.05	no
1 1/4	Buckner	400S	n/a	B	F	65-100	85-117	34.62-132.18	0.35-0.7	no
1 1/4	Buckner	AII23	n/a	B	F/P	55-95	73-113	24.9-121	0.52-1.05	no
1 1/4	Buckner	AII20	n/a	B	F	55-95	73-113	24.9-121	0.52-1.05	no
1 1/4	Buckner	400S	n/a	B	F	65-100	85-117	34.62-132.18	0.35-0.7	no
1 1/4	Buckner	AII23	n/a	B	F/P	55-95	73-113	24.9-121	0.52-1.05	no
1/2 or 3/4	Irritrol	Titan	Titan	PI	partial/FC	30-50	32-45	1.5-7.5	0.14-0.42	no
1/2 or 3/4	K-Rain	ST-IS45	SureThrow	2.9-4.0	15-360	28-57	37-42	2.0-5.2	0.28-0.56	no
1/2 or 3/4	Rain Bird	2045A	Maxi-Paw P/FC	6-12 Std., 7-10 LA	20-360	25-60	22-45	1.5-8.4	0.28-1.21	no
1/2 or 3/4	Rain Bird	2045A-SAM	Maxi-Paw P/FC w/CV	6-12 Std., 7-10 LA	20-360	25-60	22-45	1.5-8.4	0.28-1.21	no
1/2 or 3/4	Rain Bird	2045A-SAM-NP	Maxi-Paw NP P/FC w/CV	6-12 Std., 7-10 LA	20-360	25-60	22-45	1.5-8.4	0.28-1.21	no
1/2	Rain Bird	2045PI	Maxi-Bird	6-12 Std., 7-10 LA	20-360	25-60	22-45	1.5-8.4	0.28-1.21	no
2	Rain Bird	XLR	XLR P/FC	12-28	20-360	30-120	80-202	35-379	n/a	no
1 1/2	Toro	TS120V	TS120	PI	partial/FC	45-120	62-125	21-121	n/a	no

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