

## Matched Precipitation Rate (MPR) Nozzles

### Primary Application

Matched Precipitation Rate (MPR) Nozzles simplify the design process by allowing sprinklers with various arcs and radii to be mixed on the same circuit. Fits all Rain Bird spray heads and shrub adapters.

### Features

- Matched precipitation rates with Rain Bird® HE-VAN and U-Series Nozzles.
- 1800 Series white filter (0.35" x 0.45") screens (shipped with nozzles) maintain precise radius adjustment and prevent clogging. 5 and 8 Series Nozzles are shipped with blue fine-mesh (0.02" x 0.02") filter screens.
- Stainless steel adjustment screw to adjust flow and radius.
- Color-coded on the top to enhance your productivity.



### Operating Range

- Spacing: 5 to 15 feet (1.5 to 4.5 m)
- Pressure: 15 to 30 psi (1 to 2.1 bar)
- Optimum Pressure: 30 psi (2.1 bar)

### Models

- 5 Series – red
- 5 Series, Bubbler Nozzles – gray
- 8 Series – green
- 10 Series – blue
- 12 Series – brown
- 15 Series – black
- 15 Strip Series – black



### How To Specify

**5 F**



**Pattern**

F: Full

H: Half

Q: Quarter

**MPR Radius Range**




5: 5 feet (1.5 m)




8: 8 feet (2.4 m)




12: 12 feet (3.7 m)




15: 15 feet (4.6 m)

# Matched Precipitation Rate (MPR) Nozzles

5 Series MPR						
5° Trajectory						
Nozzle	Pressure psi	Radius ft.	Flow gpm	■ Precip In/h	▲ Precip In/h	
5F 	15	3	0.29	3.10	3.58	
	20	4	0.33	1.99	2.29	
	25	4	0.37	2.23	2.57	
	30	5	0.41	1.58	1.83	
5H 	15	3	0.14	3.00	3.46	
	20	4	0.16	1.93	2.22	
	25	4	0.18	2.17	2.50	
	30	5	0.20	1.54	1.78	
5Q 	15	3	0.07	3.00	3.46	
	20	4	0.08	1.93	2.22	
	25	4	0.09	2.17	2.50	
	30	5	0.10	1.54	1.78	




5 Series MPR							METRIC
5° Trajectory							
Nozzle	Pressure bar	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h	
5F 	1.0	1.1	0.06	1.1	79	91	
	1.5	1.3	0.08	1.4	51	58	
	2.0	1.5	0.09	1.6	57	65	
	2.1	1.5	0.09	1.6	40	46	
5H 	1.0	1.1	0.03	0.5	76	88	
	1.5	1.3	0.04	0.7	49	56	
	2.0	1.5	0.04	0.7	55	64	
	2.1	1.5	0.05	0.9	39	45	
5Q 	1.0	1.1	0.02	0.4	76	88	
	1.5	1.3	0.02	0.4	49	56	
	2.0	1.5	0.02	0.4	55	64	
	2.1	1.5	0.02	0.4	39	45	




8 Series MPR						
10° Trajectory						
Nozzle	Pressure psi	Radius ft.	Flow gpm	■ Precip In/h	▲ Precip In/h	
8F 	15	5	0.74	2.85	3.29	
	20	6	0.86	2.30	2.66	
	25	7	0.96	1.89	2.18	
	30	8	1.05	1.58	1.82	
8H 	15	5	0.37	2.85	3.29	
	20	6	0.42	2.25	2.59	
	25	7	0.47	1.85	2.13	
	30	8	0.52	1.56	1.81	
8Q 	15	5	0.18	2.77	3.20	
	20	6	0.21	2.25	2.59	
	25	7	0.24	1.89	2.18	
	30	8	0.26	1.56	1.81	




8 Series MPR							METRIC
10° Trajectory							
Nozzle	Pressure bar	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h	
8F 	1.0	1.7	0.16	2.8	72	84	
	1.5	2.1	0.20	3.4	58	68	
	2.0	2.4	0.23	3.9	48	55	
	2.1	2.4	0.24	4.0	40	46	
8H 	1.0	1.7	0.08	1.4	72	84	
	1.5	2.1	0.10	1.7	57	66	
	2.0	2.4	0.12	1.9	47	54	
	2.1	2.4	0.12	2.0	40	46	
8Q 	1.0	1.7	0.04	0.7	70	81	
	1.5	2.1	0.05	0.8	57	66	
	2.0	2.4	0.06	1.0	48	55	
	2.1	2.4	0.06	1.0	40	46	




**Note:** All MPR nozzles tested on 4" (10.2 cm) pop-ups  
 ■ Square spacing based on 50% diameter of throw  
 ▲ Triangular spacing based on 50% diameter of throw

Performance data taken in zero wind conditions  
**Note:** Radius reduction over 25% of the normal throw of the nozzle is not recommended

10 Series MPR					
15° Trajectory					
Nozzle	Pressure psi	Radius ft.	Flow gpm	■ Precip In/h	▲ Precip In/h
10F 	15	7	1.16	2.28	2.63
	20	8	1.30	1.96	2.26
	25	9	1.44	1.71	1.98
	30	10	1.58	1.52	1.75
10H 	15	7	0.58	2.28	2.63
	20	8	0.65	1.96	2.26
	25	9	0.72	1.71	1.98
	30	10	0.79	1.52	1.75
10Q 	15	7	0.29	2.28	2.63
	20	8	0.33	1.96	2.26
	25	9	0.36	1.71	1.98
	30	10	0.39	1.52	1.75

10 Series MPR						METRIC	
15° Trajectory							
Nozzle	Pressure bar	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h	
10F 	1.0	2.1	0.26	4.2	58	67	
	1.5	2.4	0.29	4.8	50	58	
	2.0	3.0	0.35	6.0	39	45	
	2.1	3.1	0.36	6.0	37	43	
10H 	1.0	2.1	0.13	2.4	58	67	
	1.5	2.4	0.14	2.4	50	58	
	2.0	3.0	0.18	3.0	39	45	
	2.1	3.1	0.18	3.0	37	43	
10Q 	1.0	2.1	0.06	1.2	58	67	
	1.5	2.4	0.07	1.2	50	58	
	2.0	3.0	0.09	1.2	39	45	
	2.1	3.1	0.09	1.2	37	43	




12 Series MPR					
30° Trajectory					
Nozzle	Pressure psi	Radius ft.	Flow gpm	■ Precip In/h	▲ Precip In/h
12F 	15	9	1.80	2.14	2.47
	20	10	2.10	2.02	2.34
	25	11	2.40	1.91	2.21
	30	12	2.60	1.74	2.01
12H 	15	9	0.90	2.14	2.47
	20	10	1.05	2.02	2.34
	25	11	1.20	1.91	2.21
	30	12	1.30	1.74	2.01
12Q 	15	9	0.45	2.14	2.47
	20	10	0.53	2.02	2.34
	25	11	0.60	1.91	2.21
	30	12	0.65	1.74	2.01

12 Series MPR						METRIC	
30° Trajectory							
Nozzle	Pressure bar	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h	
12F 	1.0	2.7	0.40	6.8	55	63	
	1.5	3.2	0.48	8.3	47	54	
	2.0	3.6	0.59	9.7	46	53	
	2.1	3.7	0.60	9.8	44	51	
12H 	1.0	2.7	0.20	3.4	55	63	
	1.5	3.2	0.24	4.2	47	54	
	2.0	3.6	0.30	4.9	46	53	
	2.1	3.7	0.30	4.9	44	51	
12Q 	1.0	2.7	0.10	1.7	55	63	
	1.5	3.2	0.12	2.1	47	54	
	2.0	3.6	0.15	2.4	46	53	
	2.1	3.7	0.15	2.5	44	51	




**Note:** All MPR nozzles tested on 4" (10.2 cm) pop-ups  
 ■ Square spacing based on 50% diameter of throw  
 ▲ Triangular spacing based on 50% diameter of throw

Performance data taken in zero wind conditions  
**Note:** Radius reduction over 25% of the normal throw of the nozzle is not recommended





# Matched Precipitation Rate (MPR) Nozzles

15 Series MPR						
30° Trajectory						
Nozzle	Pressure psi	Radius ft.	Flow gpm	■ Precip In/h	▲ Precip In/h	
15F 	15	11	2.60	2.07	2.39	
	20	12	3.00	2.01	2.32	
	25	14	3.30	1.62	1.87	
	30	15	3.70	1.58	1.83	
15H 	15	11	1.30	2.07	2.39	
	20	12	1.50	2.01	2.32	
	25	14	1.65	1.62	1.87	
	30	15	1.85	1.58	1.83	
15Q 	15	11	0.65	2.07	2.39	
	20	12	0.75	2.01	2.32	
	25	14	0.82	1.62	1.87	
	30	15	0.92	1.58	1.83	





**Note:** All MPR nozzles tested on 4" (10.2 cm) pop-ups  
 ■ Square spacing based on 50% diameter of throw  
 ▲ Triangular spacing based on 50% diameter of throw

15 Series MPR							METRIC
30° Trajectory							
Nozzle	Pressure bar	Radius m	Flow m³/h	Flow l/m	■ Precip mm/h	▲ Precip mm/h	
15F 	1.0	3.4	0.60	9.8	52	60	
	1.5	3.9	0.72	11.8	47	55	
	2.0	4.5	0.84	13.7	41	48	
	2.1	4.6	0.84	14.0	40	46	
15H 	1.0	3.4	0.30	4.9	52	60	
	1.5	3.9	0.36	5.9	47	55	
	2.0	4.5	0.42	6.8	41	48	
	2.1	4.6	0.42	7.0	40	46	
15Q 	1.0	3.4	0.15	2.5	52	60	
	1.5	3.9	0.18	2.9	47	55	
	2.0	4.5	0.21	3.4	41	48	
	2.1	4.6	0.21	3.5	40	46	







Performance data taken in zero wind conditions  
**Note:** Radius reduction over 25% of the normal throw of the nozzle is not recommended

5 Series MPR Stream Bubbler Nozzles				
0° Trajectory				
Nozzle	Pressure psi	Radius ft.	Flow gpm	
5F-B 	15	5	1.50	
	20	5	1.50	
	25	5	1.50	
	30	5	1.50	
5H-B 	15	5	1.00	
	20	5	1.00	
	30	5	1.00	
5Q-B 	15	5	0.50	
	20	5	0.50	
	25	5	0.50	
	30	5	0.50	
5CST-B 	15	5	0.50	
	20	5	0.50	
	25	5	0.50	
	30	5	0.50	







**Note:** Indicates adjusted radius at psi shown

5 Series MPR Stream Bubbler Nozzles					METRIC
0° Trajectory					
Nozzle	Pressure bar	Radius m	Flow m³/h	Flow l/m	
5F-B 	1.0	1.5	0.35	5.7	
	1.5	1.5	0.35	5.7	
	2.0	1.5	0.35	5.7	
	2.1	1.5	0.35	5.7	
5H-B 	1.0	1.5	0.23	3.8	
	1.5	1.5	0.23	3.8	
	2.0	1.5	0.23	3.8	
	2.1	1.5	0.23	3.8	
5Q-B 	1.0	1.5	0.12	1.9	
	1.5	1.5	0.12	1.9	
	2.0	1.5	0.12	1.9	
	2.1	1.5	0.12	1.9	
5CST-B 	1.0	1.5	0.12	1.9	
	1.5	1.5	0.12	1.9	
	2.0	1.5	0.12	1.9	
	2.1	1.5	0.12	1.9	



**Note:** Flow at adjusted radius of 5 feet (1.5 m)

15 Strip Series				
30° Trajectory				
Nozzle	Pressure psi	W x L ft.	Flow gpm	
 15EST	15	4 x 13	0.45	
	20	4 x 14	0.50	
	25	4 x 14	0.56	
	30	4 x 15	0.61	
 15CST	15	4 x 26	0.89	
	20	4 x 28	1.00	
	25	4 x 28	1.11	
	30	4 x 30	1.21	
 15RCS	15	3 x 11	0.35	
	20	3 x 12	0.40	
	25	4 x 14	0.45	
	30	4 x 15	0.49	
 15LCS	15	3 x 11	0.35	
	20	3 x 12	0.40	
	25	4 x 14	0.45	
	30	4 x 15	0.49	
 15SST	15	4 x 26	0.89	
	20	4 x 28	1.00	
	25	4 x 28	1.11	
	30	4 x 30	1.21	
 9SST	15	9 x 15	1.34	
	20	9 x 16	1.47	
	25	9 x 18	1.60	
	30	9 x 18	1.73	



W = Width of coverage pattern L = Length of coverage pattern  
 Note: Radius reduction over 25% of the normal throw of the nozzle is not recommended

15 Strip Series					METRIC
30° Trajectory					
Nozzle	Pressure bar	W x L m	Flow m³/h	Flow l/m	
 15EST	1.0	1.2 x 4.0	0.10	1.7	
	1.5	1.2 x 4.3	0.11	2.0	
	2.0	1.2 x 4.3	0.13	2.3	
	2.1	1.2 x 4.6	0.14	2.3	
	2.1	1.2 x 4.6	0.14	2.3	
 15CST	1.0	1.2 x 7.9	0.20	3.4	
	1.5	1.2 x 8.5	0.23	4.0	
	2.0	1.2 x 8.5	0.25	4.5	
	2.1	1.2 x 9.2	0.27	4.6	
	2.1	1.2 x 9.2	0.27	4.6	
 15RCS	1.0	0.8 x 3.2	0.08	1.3	
	1.5	1.0 x 3.9	0.09	1.6	
	2.0	1.2 x 4.5	0.11	1.8	
	2.1	1.2 x 4.6	0.11	1.9	
	2.1	1.2 x 4.6	0.11	1.9	
 15LCS	1.0	0.8 x 3.2	0.08	1.3	
	1.5	1.0 x 3.9	0.09	1.6	
	2.0	1.2 x 4.5	0.11	1.8	
	2.1	1.2 x 4.6	0.11	1.9	
	2.1	1.2 x 4.6	0.11	1.9	
 15SST	1.0	1.2 x 7.9	0.20	3.4	
	1.5	1.2 x 8.5	0.23	4.0	
	2.0	1.2 x 8.5	0.25	4.5	
	2.1	1.2 x 9.2	0.27	4.6	
	2.1	1.2 x 9.2	0.27	4.6	
 9SST	1.0	2.7 x 4.6	0.30	5.1	
	1.5	2.7 x 4.9	0.33	5.8	
	2.0	2.7 x 5.5	0.36	6.5	
	2.1	2.7 x 5.5	0.39	6.5	
	2.1	2.7 x 5.5	0.39	6.5	

Performance data taken in zero wind conditions

8 FLT Series MPR					
5° Trajectory					
Nozzle	Pressure psi	Radius ft.	Flow gpm	Precip In/h	Precip In/h
 8H-FLT	15	6	0.56	3.36	3.88
	20	7	0.65	2.91	3.36
	25	7	0.72	2.60	3.01
	30	8	0.79	2.38	2.75
 8Q-FLT	15	6	0.28	3.32	3.83
	20	7	0.32	2.87	3.32
	25	7	0.36	2.57	2.97
	30	8	0.39	2.35	2.71

Note: All MPR nozzles tested on 4" (10.2 cm) pop-ups  
 ■ Square spacing based on 50% diameter of throw  
 ▲ Triangular spacing based on 50% diameter of throw

8 FLT Series MPR							METRIC
5° Trajectory							
Nozzle	Pressure bar	Radius m	Flow m³/h	Flow l/m	Precip mm/h	Precip mm/h	
 8H-FLT	1.0	1.7	0.12	2.1	87	101	
	1.5	2.1	0.15	2.6	71	82	
	2.0	2.4	0.18	2.9	62	71	
	2.1	2.4	0.18	3.0	60	70	
	2.1	2.4	0.18	3.0	60	70	
 8Q-FLT	1.0	1.7	0.06	1.1	86	100	
	1.5	2.1	0.07	1.3	71	81	
	2.0	2.4	0.09	1.4	61	71	
	2.1	2.4	0.09	1.5	60	69	
	2.1	2.4	0.09	1.5	60	69	

Performance data taken in zero wind conditions  
 Note: Radius reduction over 25% of the normal throw of the nozzle is not recommended

## Specifications

The nozzles shall have precipitation rates matched across sets and across patterns.

The plastic MPR Nozzle shall be constructed of UV-resistant plastic. The radius adjustment screen shall be constructed of stainless steel.

The nozzle shall accept the non-clogging 1800 Series filter screens to allow for radius adjustment.

The Plastic MPR Nozzles shall be manufactured by Rain Bird Corporation, Azusa, California.

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