

DESIGN GUIDE

MP Rotator®: High Efficiency Multi-Stream Rotating Nozzle



Matched Precipitation

The MP Rotator maintains its matched precipitation rate at any arc or radius setting, simplifying landscape irrigation designs while maximizing efficiency.

Reliable Operation

Patented double-pop nozzle keeps the sprinkler free from external debris.

Efficient Application

Multiple rotating streams provide even coverage and wind resistance, eliminating dry spots.

Pressure Regulation

For best results, use the pressure-regulated Hunter PRS40.

Accurate Adjustments

Arc and radius can be adjusted while maintaining matched precipitation. Radius can be reduced up to 25%.

Durable

Removable inlet filter keeps sprinkler free from internal debris.

Easy Installation

Compatible with all Hunter spray bodies—perfect for retrofits. Use the MP-HT for female-threaded spray bodies.



MP ROTATOR DESIGN GUIDE

APPLICATION

1 MP Rotator Application

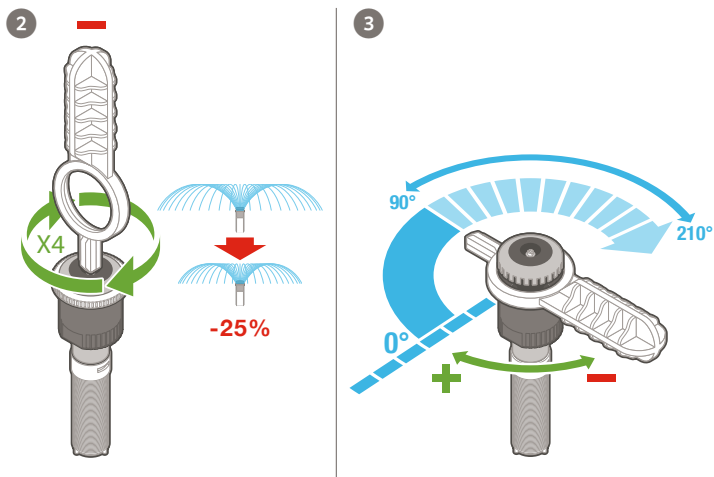
Specify the MP Rotator as the desired nozzle in a spray head body.

Retrofit spray systems by installing the MP Rotator onto any conventional spray head or shrub adapter.

2 Radius Adjustment

All models of the MP Rotator allow for easy radius adjustment of up to 25% while maintaining automatic matched precipitation.

Turn the nozzle adjustment screw clockwise to reduce the radius or counter clockwise to increase the radius. Four full rotations will maximize the effect. Additional rotations will not affect the performance of the nozzle.



3 Arc Setting

The MP Rotator has a fixed left edge on all 90-210 models and 210-270 models. Turn the adjustment ring clockwise to increase the arc, and turn the adjustment ring counter-clockwise to decrease the arc.

4 Pressure

Optimal performance and uniformity are reached at 2.8 bar operating pressure. Use the Pro-Spray PRS40 to achieve pressure regulation of 2.8 bar.

To reach the minimum radius, use the Pro-Spray PRS30 for pressure regulation to 2.1 bar. To achieve maximum radius, increase the pressure over 2.8 bar.



MP ROTATOR FACTORY SETTINGS

New MP Rotators are shipped from the factory at the maximum radius setting and with the following arc settings:

MP MODEL	FACTORY SET ARC
90-210	180 °
210-270	210 °
360	full circle
MP Corner	45 °
MP Side Strip	180 °
MP Left & Right Strip	90 °

MP ROTATOR NOZZLE HEIGHT AND TRAJECTORY

Nozzle No.	Pressure		Degrees of Trajectory	Max. Height of Spray (m)
	bar	kpa		
MP800SR	2.8	275	18	0.5
1000	2.8	275	20	0.5
2000	2.8	275	26	1.1
3000	2.8	275	26	2.0
3500	2.8	275	26	2.5
Corner	2.8	275	14	0.4
MP Side Strip	2.8	275	16	0.5
MP Left Strip	2.8	275	16	0.5

LAYOUT AND PLACEMENT

Run Times

Because the MP Rotator applies less water with increased uniformity, simply doubling the run time used for traditional spray nozzles may supply sufficient water to the landscape while using less

water overall. Or you can calculate the run time based on the lower precipitation rate.

Visit www.hunterindustries.com/tools/runtime for more information on run time calculations.

Precipitation Rate Calculations

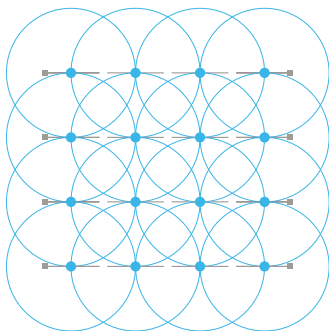
MP Rotators are recommended for use with head-to-head coverage in either square or triangular layouts.

Square Spacing Application Rate

$$\frac{1000 \times \text{Flow rate for } 360^\circ \text{ sprinkler (m}^3/\text{hr)}}{\text{Head spacing} \times \text{Row spacing}}$$

Example:

$$\frac{1000 \times 0.33 \text{ (m}^3/\text{hr)}}{5.8 \times 5.8} = 9.8 \text{ mm/hr}$$



5.8 m Square Spacing

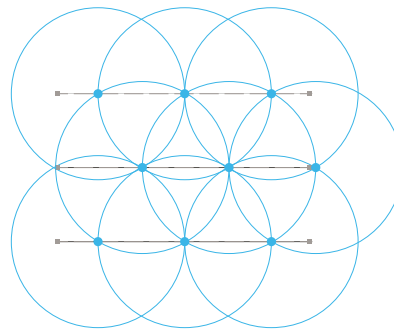
MP2000-360
2.8 bar/275 kpa
5.8 m Radius
0.33 m³/hr
5.8 m Head x 5.8 m Row,
Square Spacing

Equilateral Triangular Spacing Application Rate

$$\frac{1000 \times \text{Flow rate for } 360^\circ \text{ sprinkler (m}^3/\text{hr)}}{\text{Head spacing} \times \text{Head spacing} \times 0.866}$$

Example:

$$\frac{1000 \times 0.83 \text{ (m}^3/\text{hr)}}{9.1 \times 9.1 \times 0.866} = 11.6 \text{ mm/hr}$$



9.1 m Triangular Spacing

MP3000-360
2.8 bar/275 kpa
9.1 m Radius
0.83 m³/hr
9.1 m Head x 7.9 m Row,
Triangular Spacing

Note: Equilateral triangular spacing has a higher application rate than square spacing due to less area per sprinkler.

Zoning with the MP Rotator

The standard MP Rotators have a matched precipitation rate of approximately 10 mm/hr. This means any standard MP Rotator at any arc or radius can be placed on the same zone.

The MP800SR can be configured to work well in head-to-head coverage in either square or triangular layouts. When square spacing is used, the resulting precipitation rate will be approximately 20 mm/hr.

Since this precipitation rate differs from the standard line of MP Rotators, it is strongly suggested to zone the MP800SR separately to maintain matched precipitation within each zone.



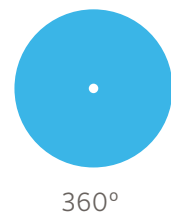
MP800SR

Matched Precipitation

Realize water savings for tight spaces with the MP800SR. The SR series offers the benefits of multi-stream multi-trajectory technology in smaller areas than ever before. The MP800SR delivers water to distances as small as 1.8 m at a matched precipitation rate of approximately **20 mm/hr**, less than half that of traditional spray nozzles.

Radius

Arc



MP800SR



Pressure Ratings

The MP800SR, just like its larger family of MP Rotators, prefers 2.8 bar for optimal performance. This pressure yields the best results for coverage and distribution uniformity. **However, to achieve the lowest radius setting of 1.8 m, it will be necessary to regulate the inlet pressure to 2.1 bar.** Use a PRS30 to achieve a consistent inlet pressure of 2.1 bar.

PRS30

Pair with Pro-Spray® PRS30 to achieve minimum 1.8 m radius.



PRS40

Pair with Pro-Spray® PRS40 for optimal performance.





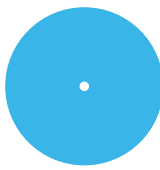














MP1000, MP2000, MP3000, MP35000

Matched Precipitation

All standard MP Rotators have a matched precipitation rate of approximately 10 mm/hr.

Radius

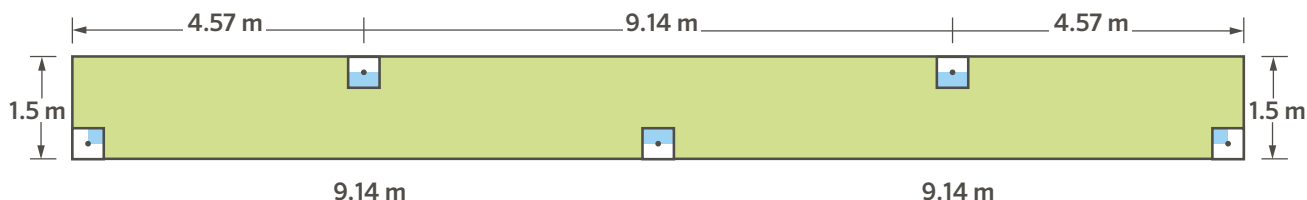
Arc

Radius	Arc			
	 <p>90° to 210°</p>	 <p>210° to 270°</p>	 <p>360°</p>	
<p>MP1000</p> 	 <p>MP100090</p>	 <p>MP1000210</p>	 <p>MP1000360</p>	
<p>MP2000</p> 	 <p>MP200090</p>	 <p>MP2000210</p>	 <p>MP2000360</p>	
<p>MP3000</p> 	 <p>MP300090</p>	 <p>MP3000210</p>	 <p>MP3000360</p>	
<p>MP3500</p> 	 <p>MP350090</p>			

SIDE STRIP AND CORNER MODELS

Side Strip Precipitation Example

The precipitation rate of the MP Strips is dependent on the layout of the system. The following is an example of a potential design and associated precipitation rate:



Precipitation Rate Using Total Area Method

$$PR = \frac{1000 \times \text{Total Flow (m}^3/\text{hr)}}{\text{Total Area (m}^2\text{)}}$$

$$= \frac{1000 \times (0.05 + 0.10 + 0.10 + 0.10 + 0.05)}{1.5 \times 18.28}$$

$$= 14.6 \text{ mm/hr}$$



MPLCS515
(Left Strip)



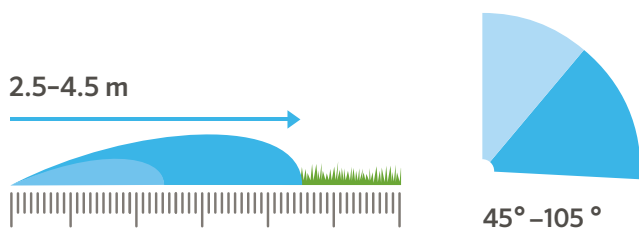
MPSS530
(Side Strip)



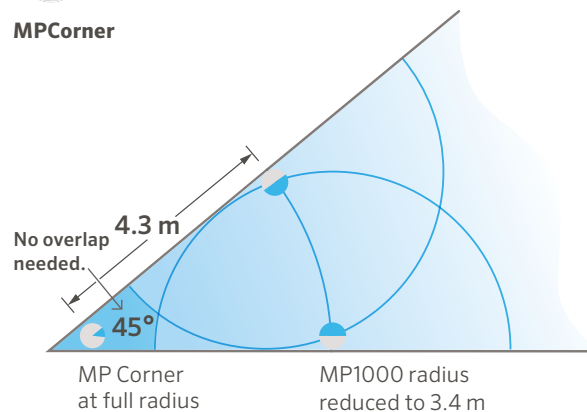
MPRCS515
(Right Strip)

MP Corner

The MP Corner is specially designed to provide extra coverage in tight corners so that neighboring heads do not need to reach into the corner to provide head-to-head coverage, avoiding unnecessary overspray onto non-target areas.



MPCorner



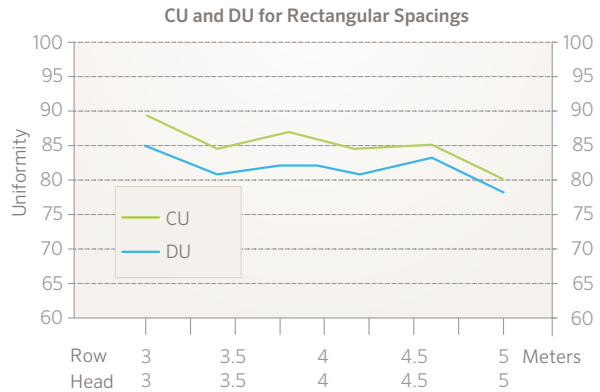
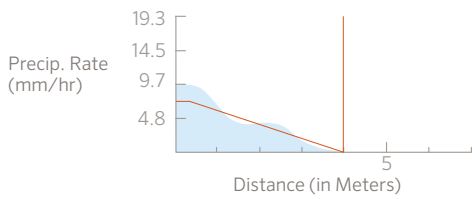
UNIFORMITY

Uniformity Samples

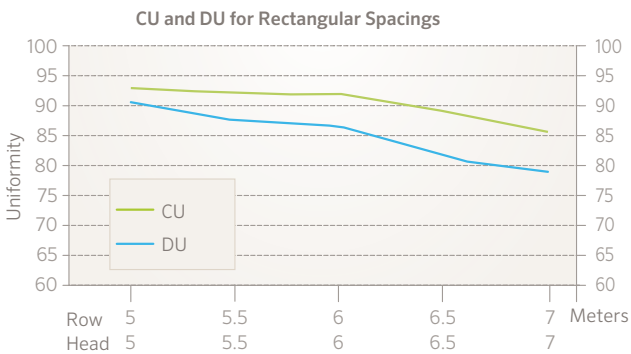
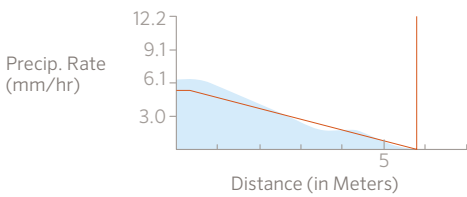
The various streams of the MP Rotator allow it to target all areas of the landscape evenly when properly installed, yielding superior uniformity over traditional spray nozzles. Several independent studies demonstrate this difference and other efficiency benefits of the MP Rotator. Read more at hunterindustries.com/site-studies.

Below is a sampling of MP Rotator profiles and associated uniformities. These uniformity examples result from tests performed indoors in controlled conditions. On-site conditions will affect actual uniformity, and the uniformity data may change due to continuing product development.

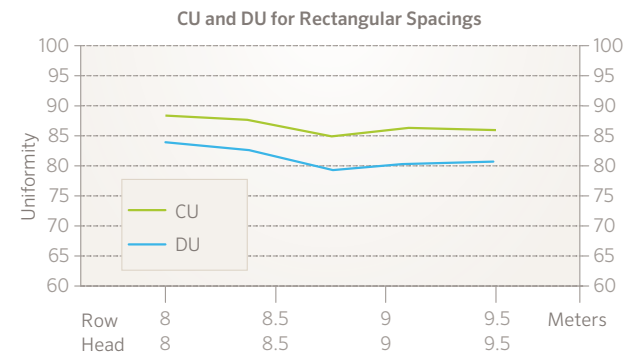
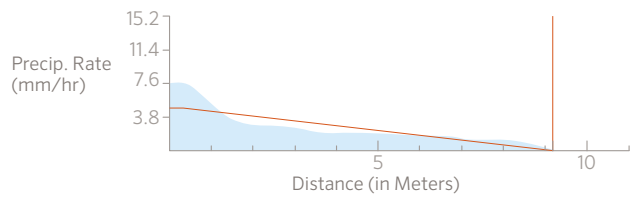
MP1000 90-210 180° at 2.8 bar



MP2000 90-210 180° at 2.8 bar



MP3000 90-210 180° at 2.8 bar



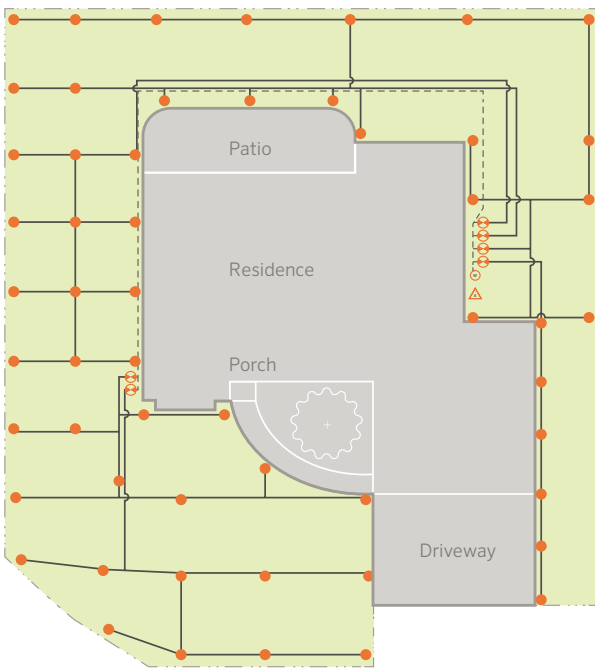
COST AND WATER SAVINGS

Lower System Cost

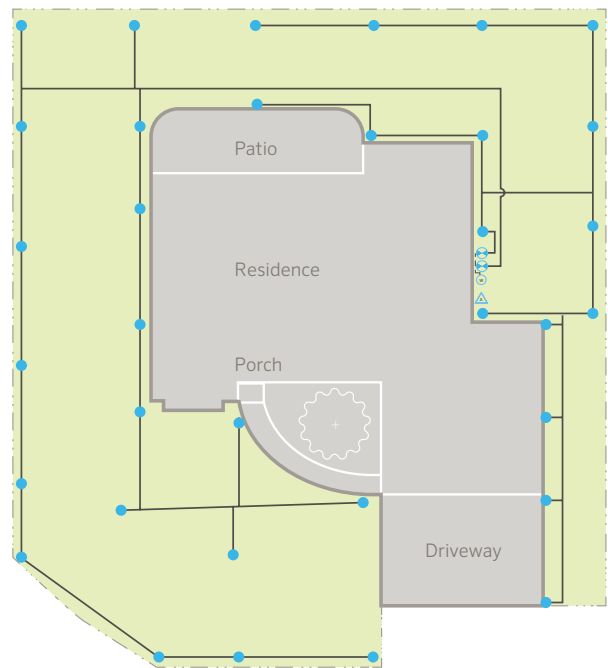
A design with MP Rotators uses far less material and equipment than a traditional spray design, resulting in an overall reduced project cost. Due to the lower flow rates, more heads can be run at once, reducing the number of valves needed.

Learn more about how the MP Rotator provides material and labor savings in this residential site study: hunterindustries.com/site-study/mp-rotator-creates-material-and-labor-savings.

Design Using Traditional Sprays



Design Using MP Rotators



IRRIGATION SYSTEM COST SAVING COMPARISON		
Materials Needed	With Sprays	With MP Rotator
Valves	6	2
Mainline	45.7 m	4.6 m
Laterals	243.8 m	182.9 m
Sprinklers	55	34
Controller	6-Station	4-Station
Wire	53.3 m	6.1 m
OVERALL COST	\$\$\$\$	\$\$

FILTRATION RECOMMENDATIONS AND WASTE WATER APPLICATION

Filtration Guidelines

It is recommended to use primary filtration when operating with dirty water.

A general rule is to use primary filtration that is five times the mesh rating of the nozzle filter. For example, if the nozzle filter is 20 mesh, the primary filter should be 100 mesh.

Field testing has shown that the MP800SR runs well in dirty water conditions with the use of a 150 mesh primary filtration system.

NOZZLE FILTER SIZES	
Nozzle	Screen Size (mesh)
MP1000	40
MP2000	40
MP3000	20
MP3500	20
MP Strips and Corner	40
MP800SR90	60
MP800SR360	40

HY-100, HY-100-75, HY-075

Height: 15 cm

Width: 7 cm

Depth: 13 cm








Hunter's HY filters with 150 mesh size are a great solution for zone-specific MP800SR arrangements.

Reclaimed Waste Water





The MP Rotator is an excellent choice when using reclaimed waste water. The materials used in the MP Rotator are chemical-resistant polypropylene, polyurethane, acetal plastics, stainless steel, and EPDM rubber. These materials are designed to withstand the chemicals and conditions commonly used in waste water irrigation.

MP ROTATOR DESIGN GUIDE

MP ROTATOR PERFORMANCE DATA																		
MP1000																		
		Radius: 2.5 to 4.5 m Adjustable Arc and Full-Circle						MP2000						MP3000				
		● Maroon: 90° to 210° ● Lt. Blue: 210° to 270° ● Olive: 360°						● Black: 90° to 210° ● Green: 210° to 270° ● Red: 360°						● Blue: 90° to 210° ● Yellow: 210° to 270° ● Grey: 360°				
Arc	Pressure bar kPa	Radius m	Flow m³/hr	Flow l/min	Precip mm/hr		Radius m	Flow m³/hr	Flow l/min	Precip mm/hr		Radius m	Flow m³/hr	Flow l/min	Precip mm/hr			
					■	▲				■	▲				■	▲		
90° 	1.7 170	--	--	--	--	--	5.2	0.07	1.18	11	12	7.6	0.16	2.63	11	13		
	2.0 200	3.7	0.04	0.61	11	12	5.5	0.07	1.23	10	11	8.2	0.17	2.77	10	11		
	2.5 250	4.0	0.04	0.68	10	12	5.8	0.09	1.43	10	12	8.5	0.19	3.08	10	12		
	2.8 280	4.1 0.04	0.70	10	11	6.1 0.09	1.52	10	11	9.1 0.20	3.25	9	11					
	3.0 300	4.3	0.04	0.73	10	11	6.4	0.09	1.57	9	10	9.1	0.20	3.38	10	11		
	3.5 350	4.4	0.05	0.78	10	11	6.4	0.10	1.68	10	11	9.1	0.22	3.67	11	12		
3.8 380	4.5	0.05	0.81	9	11	6.4	0.11	1.77	11	12	9.1	0.23	3.80	11	13			
180° 	1.7 170	--	--	--	--	--	4.9	0.13	2.22	11	12	7.6	0.32	5.48	11	13		
	2.0 200	3.7	0.07	1.20	11	12	5.2	0.14	2.35	11	12	8.2	0.35	5.88	10	12		
	2.5 250	4.0	0.08	1.35	10	12	5.5	0.16	2.67	11	12	8.5	0.4	6.55	11	12		
	2.8 280	4.1 0.08	1.40	10	11	5.8 0.17	2.80	10	12	9.1 0.41	6.88	10	11					
	3.0 300	4.3	0.09	1.46	10	11	6.1	0.17	2.90	10	11	9.1	0.43	7.18	10	12		
	3.5 350	4.4	0.09	1.56	10	11	6.4	0.19	3.15	9	10	9.1	0.47	7.77	11	13		
3.8 380	4.5	0.10	1.62	9	11	6.4	0.19	3.22	9	11	9.1	0.45	8.02	12	13			
210° 	1.7 170	--	--	--	--	--	4.9	0.16	2.58	11	12	7.6	0.38	6.40	11	13		
	2.0 200	3.7	0.09	1.41	11	13	5.2	0.17	2.75	11	13	8.2	0.41	6.85	10	12		
	2.5 250	4.0	0.10	1.58	10	12	5.5	0.19	3.08	10	12	8.5	0.46	7.65	11	12		
	2.8 280	4.1 0.10	1.63	10	11	5.8 0.20	3.25	10	12	9.1 0.48	8.02	10	11					
	3.0 300	4.3	0.10	1.71	10	11	6.1	0.21	3.42	10	11	9.1	0.50	8.37	10	12		
	3.5 350	4.4	0.11	1.82	10	11	6.4	0.22	3.70	9	10	9.1	0.54	9.03	11	13		
3.8 380	4.5	0.11	1.89	9	11	6.4	0.23	3.80	10	11	9.1	0.56	9.37	12	13			
270° 	1.7 170	--	--	--	--	--	4.9	0.20	3.32	11	12	7.6	0.50	8.35	12	13		
	2.0 200	3.7	0.11	1.80	11	13	5.2	0.21	3.53	11	13	8.2	0.53	8.83	10	12		
	2.5 250	4.0	0.12	2.05	10	12	5.5	0.24	3.97	10	12	8.5	0.59	9.82	11	12		
	2.8 280	4.1 0.13	2.10	10	11	5.8 0.25	4.15	10	12	9.1 0.62	10.32	10	11					
	3.0 300	4.3	0.13	2.20	10	11	6.1	0.26	4.35	10	11	9.1	0.65	10.77	10	12		
	3.5 350	4.4	0.14	2.35	10	11	6.4	0.28	4.70	9	10	9.1	0.70	11.68	11	13		
3.8 380	4.5	0.15	2.45	9	11	6.4	0.29	4.88	9	11	9.1	0.73	12.12	12	13			
360° 	1.7 170	--	--	--	--	--	4.9	0.27	4.42	11	12	7.6	0.66	10.98	11	13		
	2.0 200	3.7	0.14	2.40	12	14	5.2	0.28	4.72	11	13	8.2	0.70	11.72	10	12		
	2.5 250	4.0	0.16	2.69	10	12	5.5	0.32	5.28	10	12	8.5	0.76	13.10	11	12		
	2.8 280	4.1 0.17	2.81	10	12	5.8 0.33	5.55	10	12	9.1 0.83	13.75	10	11					
	3.0 300	4.3	0.18	2.94	10	11	6.1	0.35	5.80	10	11	9.1	0.87	14.37	10	12		
	3.5 350	4.4	0.19	3.17	10	11	6.4	0.37	6.25	9	10	9.1	0.93	15.52	11	13		
3.8 380	4.5	0.20	3.25	10	11	6.4	0.38	6.40	9	10	9.1	0.96	16.07	12	13			

MP3500																		
		Radius: 9.4 to 10.7 m Adjustable Arc						MP3500						MP3500				
		● Light Brown: 90° to 210°						● Light Brown: 90° to 210°						● Light Brown: 90° to 210°				
Pressure bar kPa	Radius m	Flow m³/hr	Flow l/min	Precip mm/hr		Radius m	Flow m³/hr	Flow l/min	Precip in/hr		Radius m	Flow m³/hr	Flow l/min	Precip in/hr				
				■	▲				■	▲				■	▲			
1.7 170	10.1	0.24	3.94	9	11	10.1	0.50	8.36	10	11	10.1	0.59	9.80	10	12			
2.0 200	10.4	0.26	4.28	10	11	10.4	0.51	8.48	9	11	10.4	0.65	10.75	10	12			
2.5 250	10.4	0.28	4.58	10	12	10.4	0.60	10.03	11	13	10.4	0.70	11.66	11	13			
2.8 280	10.7	0.29	4.84	10	12	10.7	0.65	10.83	11	13	10.7	0.75	12.45	11	13			
3.0 300	10.7	0.31	5.22	11	13	10.7	0.70	11.73	12	14	10.7	0.80	13.40	12	14			
3.5 350	10.7	0.33	5.41	11	13	10.7	0.73	12.15	13	15	10.7	0.85	14.23	13	15			
3.8 380	10.7	0.34	5.68	12	14	10.7	0.75	12.41	13	15	10.7	0.90	14.91	13	16			

MP ROTATOR DESIGN GUIDE




MP ROTATOR PERFORMANCE DATA - MP800SR										
MP800SR		Radius: 1.8 to 3.5 m Adjustable Arc ● Orange and Grey: 90° to 210° ● Lime Green and Grey: 360°								
MAX RADIUS						MIN RADIUS				
Arc	Pressure bar kPa	Radius m	Flow m ³ /hr l/min	Precip. mm/hr ■ ▲		Radius m	Flow m ³ /hr l/min			
90° 	2.1	200	2.6	0.04	0.61	22	25	1.8	0.03	0.49
	2.5	250	2.9	0.04	0.72	21	24	2.1	0.03	0.55
	2.8	280	3.1	0.05	0.87	21	24	2.4	0.04	0.61
	3.0	300	3.4	0.06	0.95	20	23	2.4	0.04	0.68
	3.5	350	3.5	0.06	1.02	20	23	2.7	0.04	0.72
	3.8	380	3.5	0.06	1.06	20	23	3.0	0.05	0.76
180° 	2.1	200	2.6	0.07	1.21	22	25	1.8	0.06	0.98
	2.5	250	2.8	0.08	1.40	21	24	2.1	0.07	1.10
	2.8	280	3.0	0.10	1.59	21	24	2.4	0.07	1.21
	3.0	300	3.3	0.10	1.74	19	22	2.4	0.08	1.36
	3.5	350	3.4	0.11	1.82	19	22	2.7	0.09	1.44
	3.8	380	3.5	0.11	1.89	18	21	3.0	0.09	1.51
210° 	2.1	200	2.6	0.08	1.40	22	25	1.8	0.07	1.15
	2.5	250	2.8	0.10	1.67	22	25	2.1	0.08	1.28
	2.8	280	3.0	0.11	1.85	21	24	2.4	0.08	1.41
	3.0	300	3.2	0.12	2.01	20	23	2.4	0.10	1.59
	3.5	350	3.4	0.13	2.12	19	22	2.7	0.10	1.68
	3.8	380	3.5	0.13	2.20	18	21	3.0	0.11	1.77
360° 	2.1	200	2.6	0.14	2.38	22	25	1.8	0.11	1.78
	2.5	250	2.8	0.16	2.65	20	23	2.1	0.12	1.97
	2.8	280	3.0	0.18	2.95	20	23	2.4	0.13	2.12
	3.0	300	3.1	0.19	3.22	20	23	2.4	0.13	2.23
	3.5	350	3.3	0.20	3.33	19	21	2.7	0.14	2.38
	3.8	380	3.5	0.22	3.71	18	21	3.0	0.16	2.65




PERFORMANCE DATA NOTE FOR ALL CHARTS:

Bold = Recommended Pressure.

The MP Rotator is designed to maintain matched precipitation after radius adjustment. Optimal pressure for the MP Rotator is 2.8 bar.

This can be achieved easily by using the MP Rotator with the Hunter PRS40 Spray Body, pressure regulated at 2.8 bar.

MP ROTATOR PERFORMANCE DATA					
MP Corner		Radius: 2.5 to 4.5 m Adjustable Arc ● Turquoise: 45° to 105°			
Arc	Pressure bar kPa	Radius m	Flow m ³ /hr	Flow l/min	
45° 	1.7	170	--	--	--
	2.0	200	3.5	0.04	0.61
	2.5	250	4.0	0.04	0.68
	2.8	280	4.1	0.04	0.70
	3.0	300	4.3	0.04	0.73
	3.5	350	4.4	0.05	0.78
3.8	380	4.5	0.05	0.81	
90° 	1.7	170	3.2	0.07	1.15
	2.0	200	3.5	0.08	1.27
	2.5	250	4.0	0.08	1.40
	2.8	280	4.1	0.09	1.44
	3.0	300	4.3	0.09	1.57
	3.5	350	4.4	0.10	1.67
3.8	380	4.5	0.10	1.73	
105° 	1.7	170	3.2	0.08	1.34
	2.0	200	3.5	0.09	1.48
	2.5	250	4.0	0.10	1.63
	2.8	280	4.1	0.10	1.70
	3.0	300	4.3	0.11	1.83
	3.5	350	4.4	0.12	1.94
3.8	380	4.5	0.12	2.00	

MP ROTATOR PERFORMANCE DATA					
		● MPLCS515: Ivory, MP Left Corner Strip ● MPRCS515: Copper, MP Right Corner Strip ● MPSS530: Brown, MP Side Strip			
		Pressure bar kPa	Radius m	Flow m ³ /hr	Flow l/min
MP Left Corner Strip 	1.7	170	1.1 x 4.2	0.04	0.67
	2.0	200	1.2 x 4.3	0.04	0.72
	2.5	250	1.4 x 4.5	0.05	0.79
	2.8	280	1.5 x 4.6	0.05	0.84
	3.0	300	1.6 x 4.7	0.06	0.87
	3.5	350	1.7 x 4.8	0.06	0.94
3.8	380	1.8 x 4.9	0.06	0.99	
MP Right Corner Strip 	1.7	170	1.1 x 4.2	0.04	0.67
	2.0	200	1.2 x 4.3	0.04	0.72
	2.5	250	1.4 x 4.5	0.05	0.79
	2.8	280	1.5 x 4.6	0.05	0.84
	3.0	300	1.6 x 4.7	0.05	0.87
	3.5	350	1.7 x 4.8	0.06	0.94
3.8	380	1.8 x 4.9	0.06	0.99	
MP Side Strip 	1.7	170	1.1 x 8.3	0.08	1.34
	2.0	200	1.2 x 8.6	0.09	1.43
	2.5	250	1.4 x 8.9	0.09	1.57
	2.8	280	1.5 x 9.1	0.10	1.66
	3.0	300	1.6 x 9.3	0.10	1.72
	3.5	350	1.7 x 9.6	0.11	1.87
3.8	380	1.8 x 9.9	0.12	1.96	

Strip pattern radius can be adjusted by 25%.

FIELD IDENTIFICATION

MP Rotator models are color-coded for easy field identification.

	MP1000	MP2000	MP3000	MP3500		MP Strip		
Radius	2.5 to 4.5 m	4.0 to 6.4 m	6.7 to 9.1 m	9.4 to 10.7 m				
Arc						Shape		
90° to 210°	MP1000-90	MP2000-90	MP3000-90	MP3500-90			MPLCS515 1.5 x 4.5 m Left Corner	
								
210° to 270°	MP1000-210	MP2000-210	MP3000-210			MPRCS515 1.5 x 4.5 m Right Corner		
								
360°	MP1000-360	MP2000-360	MP3000-360			MPSS530 1.5 x 9.1 m Side Strip		

MP800SR

Radius 1.8 to 3.5 m

Arc



90° to 210°



MP800SR-90
Short Radius

With a precipitation rate of approximately 20 mm/hr, it is strongly suggested to zone the MP800SR separately to maintain matched precipitation within each zone.



360°



MP800SR-360
Short Radius

MP Corner



MPCORNER
2.5 x 4.5 m

MP Male Threaded



MP-HT
Male-Threaded

Available in all MP Rotator models, except MP1000-210, MP3500-90, and MP800SR models

Website hunterindustries.com | Customer Support 1-800-383-4747 | Technical Service 1-800-733-2823

Helping our customers succeed is what drives us. While our passion for innovation and engineering is built into everything we do, it is our commitment to exceptional support that we hope will keep you in the Hunter family of customers for years to come.


Gregory R. Hunter, President of Hunter Industries

