

## Step 2 – Designing your home irrigation system

### Draw up a plan of your lawn and gardens

If you have a plan of your yard with dimensions – great. If not get a Google Earth image of your yard and convert it onto a sheet of paper. Use a tape measure to get a reasonable idea of the dimensions and distances of the yard and gardens.

Mark dimensions of your drawing.

Consider which areas you want irrigated, including the lawns and gardens.



**Position where the heads will go on the lawn**

Measure out the yard and position the heads such that the water from one head will reach the next head. This is called **head-to-head flow**. This is necessary to ensure the lawn has even coverage across the whole lawn and no dry spots. A pencil and protractor may help to determine the radius of flow from each head.



Then number each head as well as writing the distance of water flow and the angle the water needs to go. Typically this will be 90, 180, 270 or 360 degrees

**Tabulate all the heads and flows from each head**

Use the table provided in the **Appendix**.

List the number of each head, the radius it needs to send water out, and the angle it needs to work in.

**Determine which Hunter MP Rotator Head to choose and the flow**

The most common heads you will need to use are the MP 1000, MP 2000 or MP3000 in the first table in the Appendix . If your irrigation system does not fit in with these options only then look for a different MP Rotator head.

There may be specialist applications where you may need to talk to us if the following does not fit your requirements

**Using the MP Rotator Tables**

1. To use the tables first decide if the radius means it is an MP 1000 (2.5 to 4.5m); MP2000 (4.0 to 6.4m) or an MP3000 (6.7 to 9.1m).

- Look down the left hand side of the table for the angle. (90, 180, 270 or 360 degrees).
- If you know the pressure at your tap select that. If not, use the pressure in bold for the angle that matches the head you have chosen.
- Track along the table from the left side until you have the flow (in L/min) for the MP rotator you want at the angle you want.
- Write the MP Rotator and the flow in the table in the Appendix.
- Add up all the flows of all the heads.

### Example

The head needs to produce a flow radius of 8 metres at an angle of 180 degrees

- The MP3000 is the only head that can send water 8 metres. Choose 180 degrees. If you don't know the pressure choose the middle pressure (in bold). Track across the table to the MP3000 table and find the flow in l/min.
- In this case the flow is 6.88 L/min

MP1000 Radius: 2.5 to 4.5 m Adjustable Arc and Full-Circle ● Maroon: 90° to 210° ● Lt. Blue: 210° to 270° ● Olive: 360°							MP2000 Radius: 4.0 to 6.4 m Adjustable Arc and Full-Circle ● Black: 90° to 210° ● Green: 210° to 270° ● Red: 360°					MP3000 Radius: 6.7 to 9.1 m Adjustable Arc and Full-Circle ● Blue: 90° to 210° ● Yellow: 210° to 270° ● Grey: 360°				
Arc	Pressure bar kPa	Radius m	Flow m <sup>3</sup> /hr	Flow l/min	Precip mm/hr ■ ▲		Radius m	Flow m <sup>3</sup> /hr	Flow l/min	Precip mm/hr ■ ▲		Radius m	Flow m <sup>3</sup> /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	<b>0.04</b>	<b>0.70</b>	10	11	6.1	<b>0.09</b>	<b>1.52</b>	10	11	9.1	<b>0.20</b>	<b>3.25</b>	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
180°	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
	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	0.37	6.55	11	12
	2.8 280	4.1	<b>0.08</b>	<b>1.40</b>	10	11	5.8	<b>0.17</b>	<b>2.80</b>	10	12	9.1	<b>0.41</b>	<b>6.88</b>	11	11
	3.0 300	4.3	0.09	1.46	10	11	6.1	0.17	2.90	10	11	9.1	0.42	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	
1.7 170	--	--	--	--	--	--	4.9	0.16	2.58	11	12	7.6	0.38	6.40	11	13

**Separate your lawn and gardens into Zones**

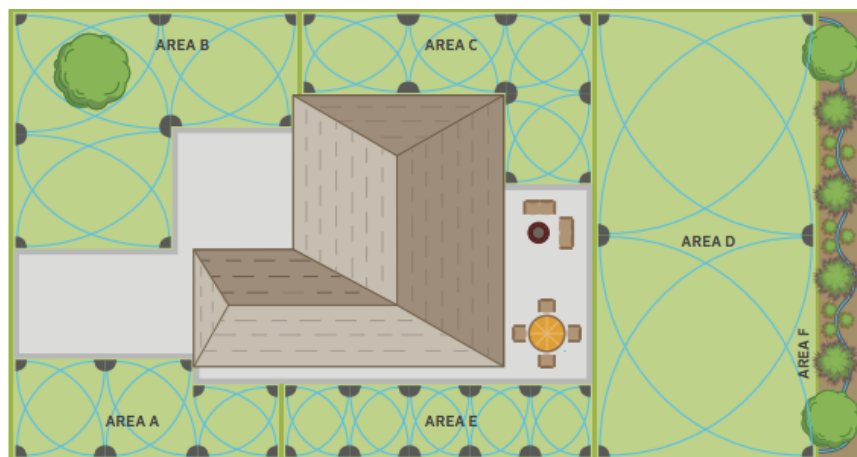
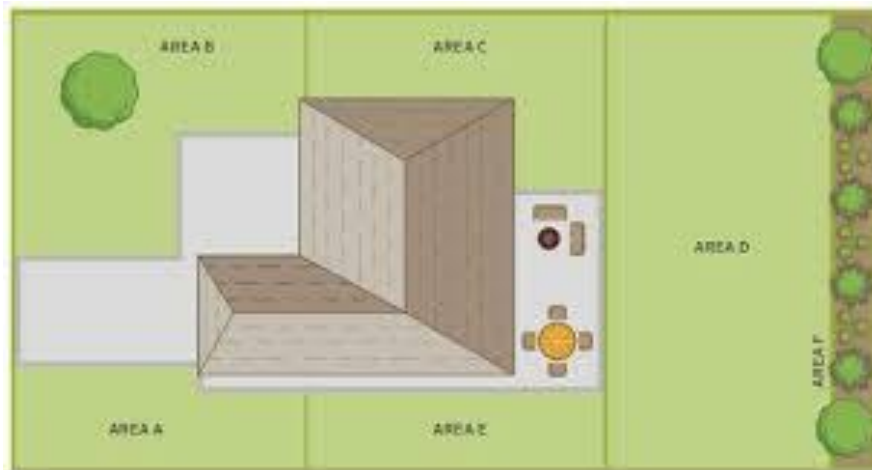
If the total flow you added in the table exceeds the flow you calculated from your tap, you will need to split the heads into more **Zones**.

***Ensure the number of heads on a single Zone does not exceed the flow calculated from your tap including the 20% margin.***

Also consider how you would like to set out your lawn into areas and any specific watering options you would like.

Keep in mind, the more areas and, therefore, Zones, the more solenoid valves, piping and fittings you will need. This adds to the cost and the complexity of the system.

**Gardens MUST be on a separate Zone to your lawns. If not, the flow to the lawns which is much larger will deprive the gardens of flow. Also, gardens need different amounts of water to lawns**



**Appendix**






**TABULATE FLOWS FROM EACH HEAD**

Head Number	Radius of Flow (m)	Angle of Flow (degrees)	Hunter MP Rotator Model	Flow (L/m)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

## APPENDIX




### MP ROTATOR PERFORMANCE DATA SHEETS

**MP1000, MP2000 and MP3000**  
Standard heads for distances of 2.5m to 9.1m

MP ROTATOR PERFORMANCE DATA																	
Arc	Pressure		MP1000 Radius: 2.5 to 4.5 m Adjustable Arc and Full-Circle ● Maroon: 90° to 210° ● Lt. Blue: 210° to 270° ● Olive: 360°				MP2000 Radius: 4.0 to 6.4 m Adjustable Arc and Full-Circle ● Black: 90° to 210° ● Green: 210° to 270° ● Red: 360°				MP3000 Radius: 6.7 to 9.1 m Adjustable Arc and Full-Circle ● Blue: 90° to 210° ● Yellow: 210° to 270° ● Grey: 360°						
	bar	kPa	Radius m	Flow m <sup>3</sup> /hr	Flow l/min	Precip mm/hr ■ ▲	Radius m	Flow m <sup>3</sup> /hr	Flow l/min	Precip mm/hr ■ ▲	Radius m	Flow m <sup>3</sup> /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**


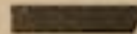

Standard heads for distances of 9.7 to 10.7m

MP ROTATOR PERFORMANCE DATA							
MP3500							
Radius: 9.4 to 10.7 m							
Adjustable Arc							
● Light Brown: 90° to 210°							
Arc	Pressure		Radius m	Flow m <sup>3</sup> /hr	Flow l/min	Precip. mm/hr	
	bar	kPa				■	▲
90° 	1.7	170	10.1	0.24	3.94	9	11
	2.0	200	10.4	0.26	4.28	10	11
	2.5	250	10.4	0.28	4.58	10	12
	<b>2.8</b>	<b>280</b>	<b>10.7</b>	<b>0.29</b>	<b>4.84</b>	<b>10</b>	<b>12</b>
	3.0	300	10.7	0.31	5.22	11	13
	3.5	350	10.7	0.33	5.41	11	13
	3.8	380	10.7	0.34	5.68	12	14
180° 	1.7	170	10.1	0.50	8.36	10	11
	2.0	200	10.4	0.51	8.48	9	11
	2.5	250	10.4	0.60	10.03	11	13
	<b>2.8</b>	<b>280</b>	<b>10.7</b>	<b>0.65</b>	<b>10.83</b>	<b>11</b>	<b>13</b>
	3.0	300	10.7	0.70	11.73	12	14
	3.5	350	10.7	0.73	12.15	13	15
	3.8	380	10.7	0.75	12.41	13	15
210° 	1.7	170	10.1	0.59	9.80	10	12
	2.0	200	10.4	0.65	10.75	10	12
	2.5	250	10.4	0.70	11.66	11	13
	<b>2.8</b>	<b>280</b>	<b>10.7</b>	<b>0.75</b>	<b>12.45</b>	<b>11</b>	<b>13</b>
	3.0	300	10.7	0.80	13.40	12	14
	3.5	350	10.7	0.85	14.23	13	15
	3.8	380	10.7	0.90	14.91	13	16



**MPLCS515, MPRCS515 and MPSS530**

Sprays that do small rectangular areas




<b>MP ROTATOR PERFORMANCE DATA</b>					
	<b>Pressure</b>		<b>Radius</b>	<b>Flow</b>	<b>Flow</b>
	bar	kPa			
<b>MP Left Corner Strip</b> 	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
	<b>2.8</b>	<b>280</b>	<b>1.5 x 4.6</b>	<b>0.05</b>	<b>0.84</b>
	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
<b>MP Right Corner Strip</b> 	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
	<b>2.8</b>	<b>280</b>	<b>1.5 x 4.6</b>	<b>0.05</b>	<b>0.84</b>
	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
<b>MP Side Strip</b> 	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
	<b>2.8</b>	<b>280</b>	<b>1.5 x 9.1</b>	<b>0.10</b>	<b>1.66</b>
	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

MP Corner

Sprays that do very tight corners of 45 to 105 degrees





**MP ROTATOR PERFORMANCE DATA**

**MP Corner**  
Radius: 2.5 to 4.5 m  
Adjustable Arc  
● Turquoise: 45° to 105°

Arc	Pressure		Radius m	Flow m <sup>3</sup> /hr	Flow l/min
	bar	kPa			
45° 	1.7	170	--	--	--
	2.0	200	3.5	0.04	0.61
	2.5	250	4.0	0.04	0.68
	<b>2.8</b>	<b>280</b>	<b>4.1</b>	<b>0.04</b>	<b>0.70</b>
	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
	<b>2.8</b>	<b>280</b>	<b>4.1</b>	<b>0.09</b>	<b>1.44</b>
	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
	<b>2.8</b>	<b>280</b>	<b>4.1</b>	<b>0.10</b>	<b>1.70</b>
	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

**MP800SR**

Sprays for short radii of 1.8 to 3.5m

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		Radius	Flow		Precip. mm/hr		Radius		Flow	
	bar	kPa	m	m <sup>3</sup> /hr	l/min	■	▲	m	m <sup>3</sup> /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	
	<b>2.8</b>	<b>280</b>	<b>3.1</b>	<b>0.05</b>	<b>0.87</b>	<b>21</b>	<b>24</b>	<b>2.4</b>	<b>0.04</b>	<b>0.61</b>	
	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	
	<b>2.8</b>	<b>280</b>	<b>3.0</b>	<b>0.10</b>	<b>1.59</b>	<b>21</b>	<b>24</b>	<b>2.4</b>	<b>0.07</b>	<b>1.21</b>	
	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	
	<b>2.8</b>	<b>280</b>	<b>3.0</b>	<b>0.11</b>	<b>1.85</b>	<b>21</b>	<b>24</b>	<b>2.4</b>	<b>0.08</b>	<b>1.41</b>	
	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	
	<b>2.8</b>	<b>280</b>	<b>3.0</b>	<b>0.18</b>	<b>2.95</b>	<b>20</b>	<b>23</b>	<b>2.4</b>	<b>0.13</b>	<b>2.12</b>	
	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	

Bold = Optimal pressure for the MP800SR