

PGM Rotor

*An Economical, Mid-Range
Gear-Driven Sprinkler
for Residential and Commercial Sites*



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PRODUCT OVERVIEW

PGM...The Gear-Driven Answer for Medium-Sized Areas

The PGM rotor has been developed to fill the void of the “mid-range” area in today’s landscapes: spacings 15' to 30' (4.6 to 9.1 m)...hard-to-fit sites that are **too large for sprays yet too small for traditional rotary sprinklers**. The PGM is a mid-range, gear-driven rotor that’s **two-thirds** the size of our best selling PGP.

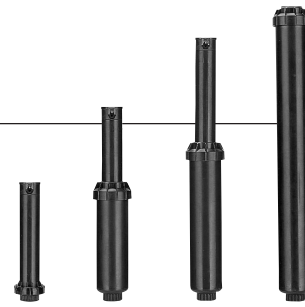
Offering greater efficiency in the application of water for slopes, medians and confined areas, the PGM rotor eliminates wasteful runoff and puddling often associated with multiple-row spray head installations.

PGM...The Ideal Alternative to Spray Heads

The PGM can be zoned together with other Hunter rotors, allowing areas that would typically use spray heads to be zoned together with PGP or I-20 rotors.

The PGM saves installation time and material costs in narrow areas typically reserved for sprays. Less trenching, fewer piping connections, less lawn disruption are all important labor saving benefits.

With the PGM, more sprinklers can be connected to the same zone, reducing the number of valves and controller stations required.



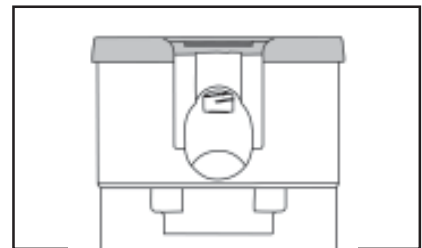
PGM...The Special Features Customers Require

With a wide range of pop-up heights the PGM can meet all your needs. The 4" (10 cm) is for normal grass heights, the 6" (15 cm) is ideal for areas with taller grasses or where mowing is infrequent, and the 12" (30 cm) is ideal for all higher plant material. There is also a shrub model that is ideally suited for use on a riser.

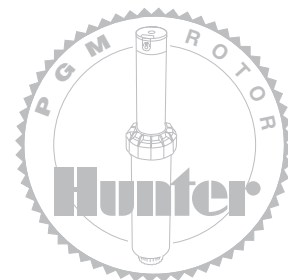
The newest feature of the PGM, thanks to comments heard in the field, is the .50 gpm nozzle. Now, more than ever, greater flexibility can be achieved with lower flows and matched precipitation rates.

One of the hottest PGM features is a **radius adjustment screw** that allows for quick and precise fine tuning of the spray, keeping water away from surrounding buildings, walkways and hardscapes.

The PGM has the proven reliability of a “**Mini-PGP**” along with the easy to adjust arc, ranging from 40° to 360°, wet or dry, popped up or down!



PGM...The answer to your needs for a small economical rotor for your residential and commercial landscape and turf applications.



PRODUCT FEATURES AND BENEFITS



New, .5 gpm nozzle added to set of interchangeable nozzles...

Even more versatile for every application

Thanks to the comments from our customers, we have added *another* nozzle to our already convenient rack: .50 gpm, with a 15' radius. We are factory-installing the 3.0 gpm nozzle in each head. But, you'll still get a full rack of 6 nozzles packed with each sprinkler, covering ranges of .5 to 3.0 gpm (0.11 to 0.68 m³/hr; 1.9 to 11.4 l/min) and 15' to 30' (4.6 to 9.1m). The easy to read identification of gallonage is on the tab of the nozzle. Not only are the nozzles reusable, but they are also recyclable.

Radius Adjustment...

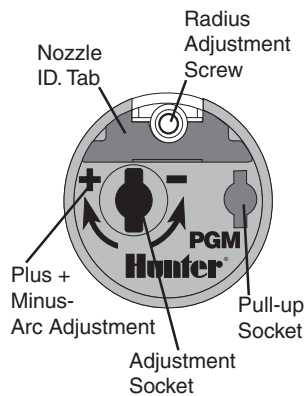
Adjust the radius and fine tune the stream of water with a quick and easy radius adjustment screw

Each nozzle radius can be reduced up to 25%. The radius adjustment screw doubles as a positive means of retaining the sprinkler nozzle, making nozzle installation foolproof.

Pull-up Socket...

Simplifies nozzle installation and removal

The PGM is the **only** mid-range rotor that has a pull-up socket, making it easy to access the nozzle.



Compact Body and Small Exposed Surface Area...

1 1/4" (3 cm)—out of sight, out of mind!

The PGM's small exposed diameter hides from small children and vandals. It won't detract from the beauty of the landscape.

40° – 360° Adjustable Arc...

Easily adjustable from the top of the sprinkler, up, down, wet or dry

For fast and efficient arc adjustments, the PGM's versatility allows you to put the water where you want it, without getting areas wet that should stay dry!

Plus + and Minus – Symbols...

Show the way for quick arc adjustment

The plus and minus symbols, on top of the sprinkler, make arc adjustments easy to understand.

Proven Reversing Mechanism...

The industry's best for reliable directional change.

The three spring reversing mechanism has given us the consistent directional change that reliable operation requires!

Single Thread Body Cap...

Easy to service when necessary

The single thread body cap and body top withstand burst pressures in excess of 200 psi (13.8 bars; 1379 kPa). It also allows for fast and easy servicing, if necessary, of the super large filter screen.

Proven Gear Drive...

Matches the superior reliability of time-tested PGP drives

The PGM is in essence a **two-thirds** scale version of our proven PGP rotor. It uses the same continuously improved gear drive design first introduced over ten years ago, ensuring reliable operation.



Super Strong Retraction Spring...

Provides positive retraction every time!

The PGM's spring is stronger than any of our competitors'.

Variable Stator...

Keeps rotation speed consistent regardless of nozzle size or pressure

With the variable stator design there is no need to adjust or change the stator "bypass setting" on the PGM. Now even better than ever, the variable stator is more dirt tolerant, providing years of reliability. No matter what nozzle or variable pressure you may have, there will always be a constant rotation speed of the sprinkler across a wide range of pressures.

Heavy Duty Riser Seal...

Stops wasteful excess "flow-by"

As the PGM pops up, the large sealing surface prevents wasteful flow-by.

Extra Large Screen...

3 times the size of our leading competitor's

The huge screen with 30 mesh size can catch a large amount of debris, maintaining sprinkler operation and preventing nozzle clogging.

Drain Check Valve...

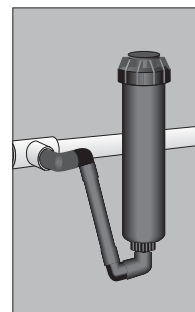
Saves water, reduces liability

The drain check valve feature is optional in all pop-up models. The check valve will hold back water pressure from up to 7' (2.1 m) of elevation change. A gray logo cap on the top of the sprinkler indicates that a drain check valve has been factory installed.

Swing Joint*...

for easy installations and retrofits

A timesaving, versatile, heavy-duty swing joint to get the sprinkler height and position just right in mere seconds. It allows for use of a check valve on 6" (15 cm) and 12" (30 cm) models (a side inlet access won't allow a check valve to work, but



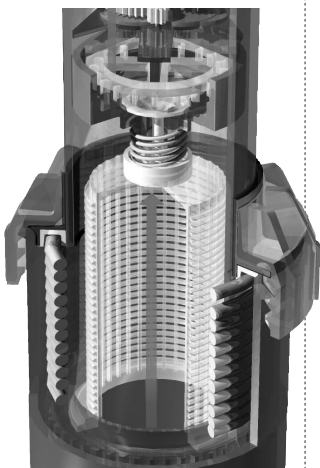
a bottom inlet access, with the addition of a swing joint, allows the check valve to function and give the user "side-inlet" versatility). The swing joint has swivel ell on both ends for added versatility. Install the swing joint vertically or horizontally with a twist of the wrist. The swing joint also protects lateral piping from downward forces exerted on the sprinkler by heavy equipment, providing a reliable, flexible connection.

Reclaimed Water Versions...

Easy identification when using reclaimed water for irrigation

Purple is the recognized color for irrigation components using reclaimed water. The PGM can be ordered with a purple logo cap permanently attached so it will meet the needs of identification standards. The drain check valve is standard on all reclaimed water versions.

**Purchased separately*



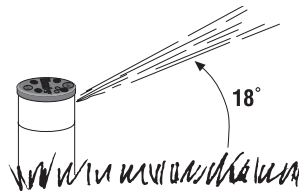
PRODUCT PERFORMANCE

The PGM's 6 interchangeable nozzles provide a wide and versatile range from .50 to 3.0 gpm (0.11 to 0.68 m³/hr; 2.0 to 11.4 l/min) and 15' to 30' (4.6 to 9.1 m) radius. The optimum performance is based upon 40 psi (2.8 bars; 275 kPa), dynamic operating pressure.

The average precipitation rate is approximately .45" per hour (11 mm/hr) for a 180° arc sprinkler. The actual precipitation rate may vary, and should be calculated.

Trajectories

The nozzle trajectory is approximately 18 degrees. This is high enough to reach the proper radius without being so high that it is affected in windy conditions.



PGM Performance Chart

Nozzle	Radius		GPM
	PSI	ft.	
.50	30	14'	.42
	40	15'	.50
	50	15'	.58
.75	30	17'	.64
	40	18'	.75
	50	18'	.85
1.0	30	20'	.85
	40	21'	1.0
	50	21'	1.1
1.5	30	23'	1.3
	40	24'	1.5
	50	24'	1.7
2.0	30	25'	1.7
	40	27'	2.0
	50	27'	2.3
3.0	30	28'	2.5
	40	30'	3.0
	50	30'	3.4

PGM Performance Chart - Metric

Nozzle	Pressure		Radius m	Flow	
	Bars	kPa		m ³ /hr.	l/min
.50	2.1	206	4.3	0.10	1.6
	2.8	275	4.6	0.11	1.9
	3.4	344	4.6	0.11	1.9
.75	2.1	206	5.2	0.15	2.4
	2.8	275	5.5	0.17	2.8
	3.4	344	5.5	0.19	3.2
1.0	2.1	206	6.1	0.19	3.2
	2.8	275	6.4	0.23	3.8
	3.4	344	6.4	0.25	4.2
1.5	2.1	206	7.0	0.30	4.9
	2.8	275	7.3	0.34	5.7
	3.4	344	7.3	0.39	6.4
2.0	2.1	206	7.6	0.39	6.4
	2.8	275	8.2	0.45	7.6
	3.4	344	8.2	0.52	8.7
3.0	2.1	206	8.5	0.57	9.5
	2.8	275	9.1	0.68	11.4
	3.4	344	9.1	0.77	12.9

Data represent test results in zero wind. Adjust for local conditions. Radius may be reduced up to 25% with adjustment screw (this may alter the uniformity of the spray pattern). Optimum performance is at 40 psi (2.8 bars/275 kPa). For information on testing standards and precipitation rate calculations, see Hunter Irrigation Products catalog.

PRODUCT COMPARISONS

FEATURES	Hunter PGM Rotor	Rainbird T-Bird Rotor	Toro 300 Rotor	Nelson 5500 Rotor
Pull-up Socket	✓			
Full & Part Circle in 1 Unit	✓			✓
Adjustable Arc... Wet or Dry, Up or Down	40°-360°	30°-350°	Discs	40°-360°
+ and - Symbols for Easier Arc Adjustment	✓			
Fast, Easy Interchangeable Nozzles	✓	✓		✓
Nozzles Packed in Box	✓			✓
Nozzle Identification from Top of Sprinkler	✓	✓		
Reliable 3-Spring	✓			
Exposed Diameter	1 1/4" (3 cm)	1 3/4" (4 cm)	3" (8 cm)	1 7/8" (5 cm)
Easy Servicing Body Cap	✓			
Radius Adjustment	✓	✓	Optional	✓
Extra Large Filter Screen	✓		✓	
Optional Drain Check Valve	✓	✓		✓
Optional Reclaimed Water Versions	✓	✓	✓	✓
WARRANTY	Hassle-free, 2-year, non-prorated	3-year conditional	2-year conditional	5-year conditional

Nozzle Replacement Guide

To Replace: <i>Rainbird T-Bird</i>	Use PGM Nozzle	To Replace: <i>Toro 300 Series</i>	Use PGM Nozzle
T22-.65	⇒ .75	304-XX-01	⇒ .75
T22-1.3	⇒ 1.5	308-XX-01	⇒ 1.5
T22-2.5	⇒ 2.0	316-XX-01	⇒ 2.0
T30-1.3	⇒ 1.5	304-XX-02	⇒ .75
T30-2.5	⇒ 3.0	308-XX-02	⇒ 2.0
		316-XX-02	⇒ 3.0
To Replace: <i>Nelson Pro 5500</i>	Use PGM Nozzle	304-XX-03	⇒ 1.5
#51	⇒ .75	308-XX-03	⇒ 3.0
#52	⇒ 1.5	To Replace: <i>Toro XP300 Series</i>	Use PGM Nozzle
#53	⇒ 2.0	XP300-XX-Q-05	⇒ 1.0
#54	⇒ 3.0	XP300-XX-H-05	⇒ 2.0

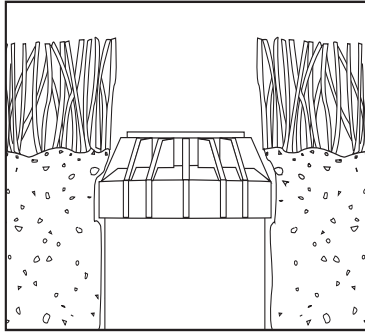
PRODUCT EXPLANATION

EXAMPLE: **PGM - 06 - A - V**

MODEL PGM-00 = Shrub PGM-04 = 4" Pop-up PGM-06 = 6" Pop-up PGM-12 = 12" Pop-up	ARC A = Adjustable	OPTIONS R = Reclaimed Water Identifier with Check Valve V = Factory-Installed Drain Check Valve
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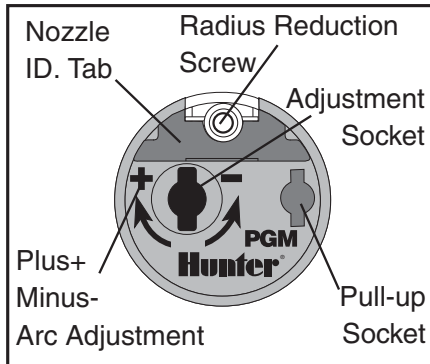
INSTALLATION & MAINTENANCE

Installation Height



The PGM pop-up sprinkler should be installed at finish grade as shown in the illustration.

Arc Adjustment



1. Rotate the nozzle turret counterclockwise to the left stop.
2. Now, rotate the nozzle turret clockwise to the right stop. This is the fixed side of the arc. The nozzle turret must be held in this position for all arc adjustments.

To increase arc:

1. Insert the key end of the Hunter wrench into the adjustment socket on top of the sprinkler.
2. While holding the nozzle turret at the right stop, turn the wrench clockwise. *(Note: all adjustments can be made with less than one full turn of the adjusting wrench.)*

3. The wrench will stop turning when adjusted to the maximum arc (360°). *Do not go past this stop.*

4. Adjust to any arc between 40°-360°.

To decrease arc:

1. Insert the key end of the Hunter wrench into the adjustment socket.
2. While holding the nozzle turret at the right stop, turn the wrench counterclockwise.
3. The wrench will stop turning when adjusted to the minimum arc (40°). *Do not go past this stop.*
4. Adjust to any arc between 40°-360°.

Radius Adjustment

To decrease radius:

1. Turn nozzle-retainer/radius-adjustment screw clockwise.
2. If smaller radius is desired install smaller nozzle. This will affect precipitation rate.

To increase radius:

1. Turn nozzle-retainer/radius-adjustment screw counterclockwise.
2. If larger radius is desired, install larger nozzle. This will affect precipitation rate.

Precipitation Rate Adjustment

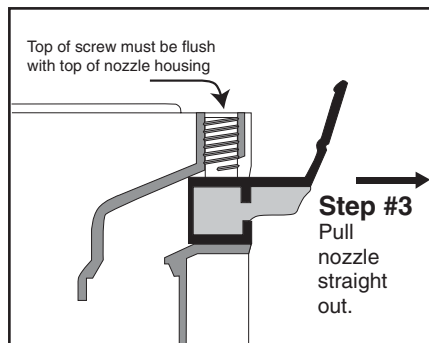
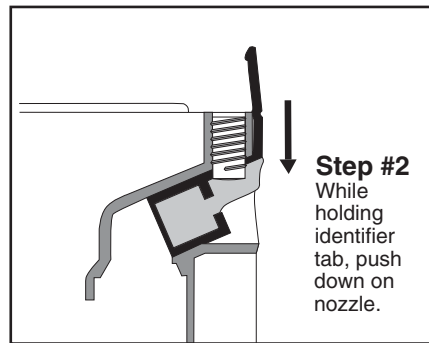
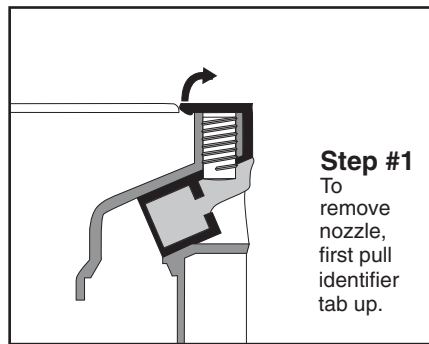
To increase precipitation:

1. Remove existing nozzle.
2. Replace with larger size.
3. Adjust radius.

To decrease precipitation:

1. Remove existing nozzle.
2. Replace with smaller size.
3. Adjust radius.

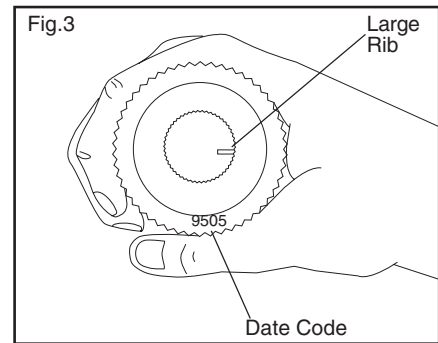
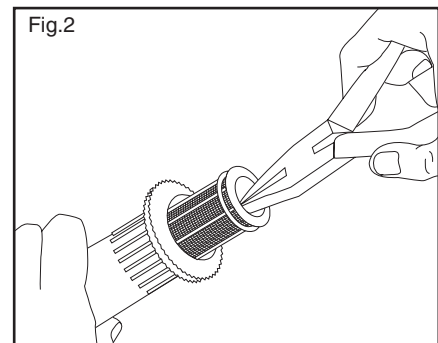
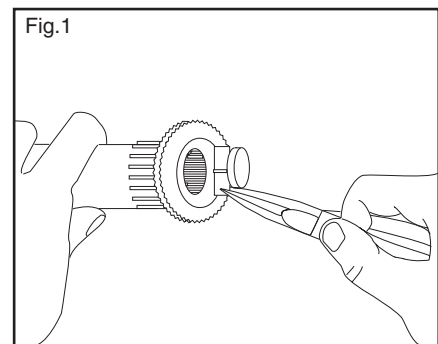
Nozzle Removal & Insertion



- If the top of the screw is below the top of the turret, the screw must be turned counterclockwise until it is flush with the top before removing the nozzle.
- If the screw is flush with the top of the nozzle turret, the nozzle can be installed by reversing the steps above.

Note: Undamaged nozzles are reusable. Nozzle sets are also recyclable.

Cleaning the Filter Screen

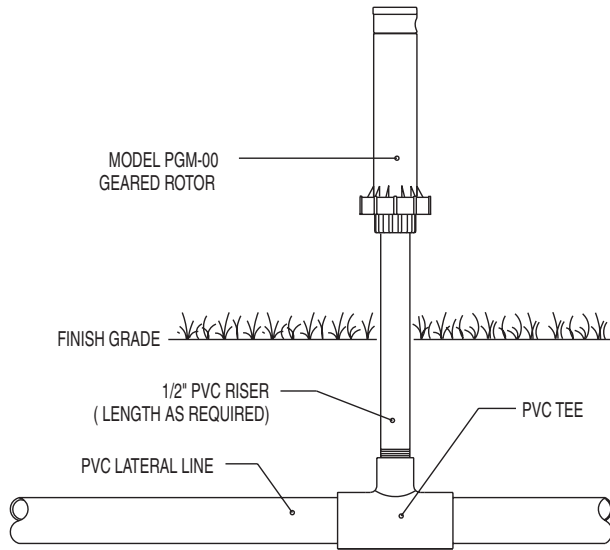


Unscrew body cap and remove internal riser.

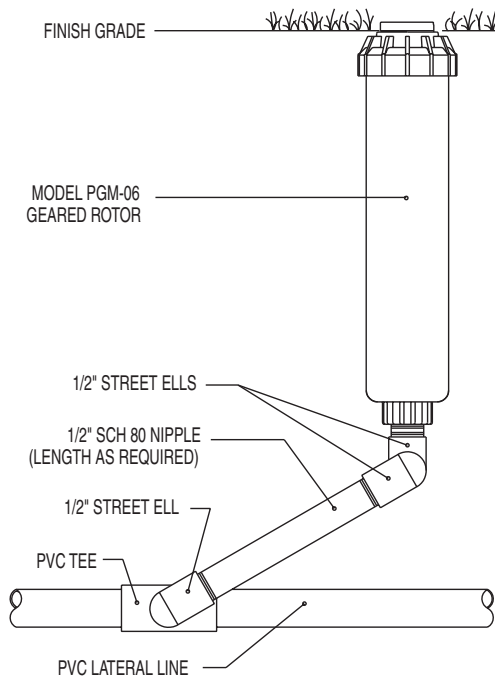
1. If sprinkler has drain check valve, remove with needle nose pliers.
2. With needle nose pliers, grasp large rib (Fig. 3) on the inside of the screen and pull firmly to remove screen.
3. Note the position of the large rib in comparison to the date code, which is located on the bottom of the riser.

TECHNICAL INFORMATION

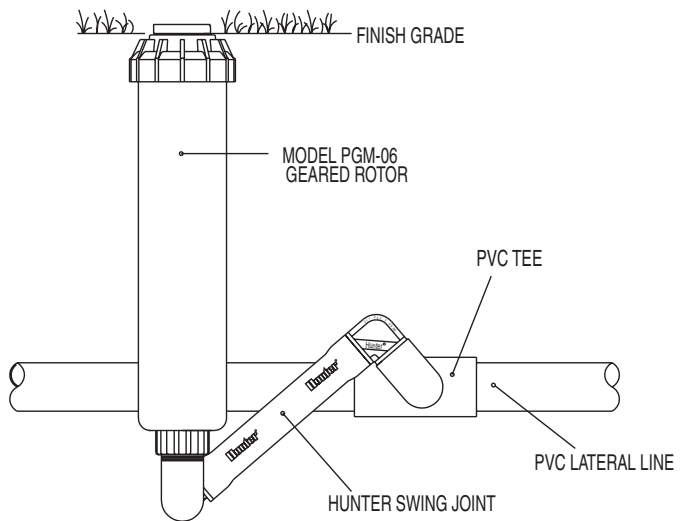
Installation Details



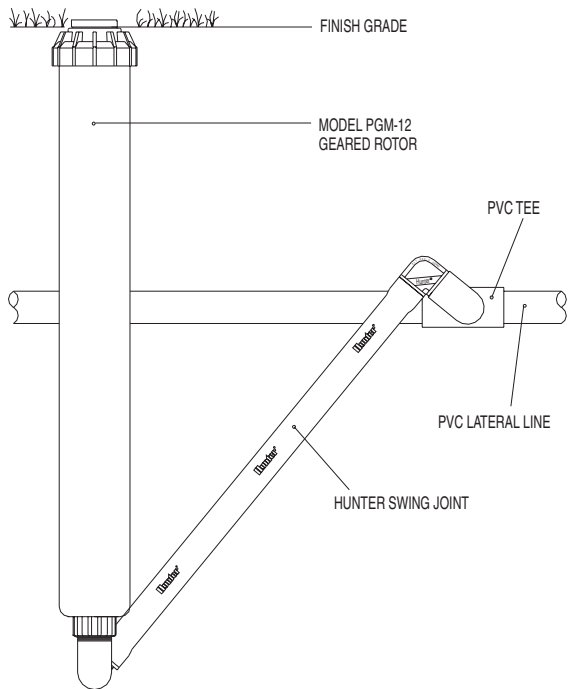
Hunter® PGM-SHRUB



Hunter® PGM-06



Hunter® PGM-06



Hunter® PGM-12 ROTOR SWING

SAMPLE LAYOUTS

3-Row Spray Head System versus PGM Rotor 2-Row System

Typically, in long and narrow landscapes, three rows of spray heads have been installed to irrigate the areas. Now, with the PGM, two rows can irrigate the same area, **more efficiently**, while saving dollars on piping, valves, stations on the controller, trenching, labor and most importantly, water use!

PS 3-Row Spray System

Zone #1=18.8 gpm (4.27 m³/hr; 71.17 l/min)

Zone #2=15.8 gpm (3.59 m³/hr; 59.81 l/min)

△ PS 04 12A 90° .8 gpm (0.18 m³/hr; 3.0 l/min)

△ .. PS 04 12A 180° 1.3 gpm (0.30 m³/hr; 4.9 l/min)

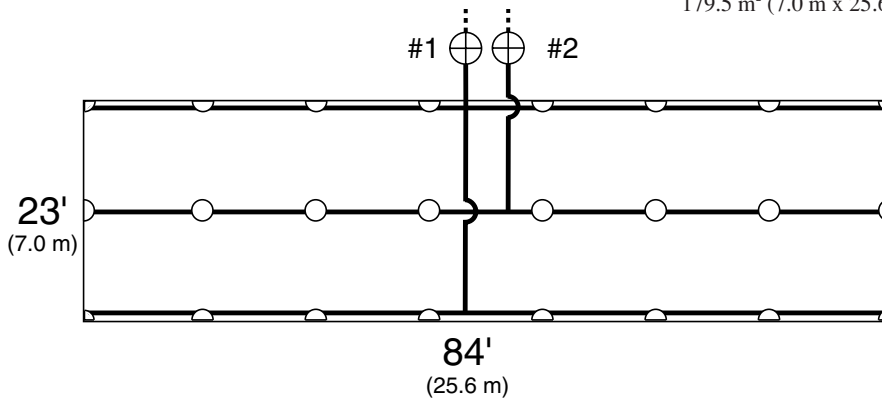
○ .. PS 04 12A 360° 2.2 gpm (0.50 m³/hr; 8.3 l/min)

PS Spray 3-Row System Precipitation Rate:

$$\frac{96.25 \times 34.6 \text{ gpm (total gpm for area)}}{1932 \text{ sq. ft. (23' x 84' = total area)}} = 1.72''/\text{hr}$$

$$\frac{130.9 \text{ l/min} \times 60}{179.5 \text{ m}^2 (7.0 \text{ m} \times 25.6 \text{ m} = \text{total area})} = 44 \text{ mm/hr}$$

$$\frac{7.85 \text{ m}^3/\text{hr} \times 1000}{179.5 \text{ m}^2 (7.0 \text{ m} \times 25.6 \text{ m} = \text{total area})} = 44 \text{ mm/hr}$$



PGM 2-Row Rotor System

Saves installation time and labor, and reduces material costs.

Zone #1=16 gpm

▲ ... PGM-04 90° #1.0 1.0 gpm (0.23 m³/hr; 3.8 l/min)

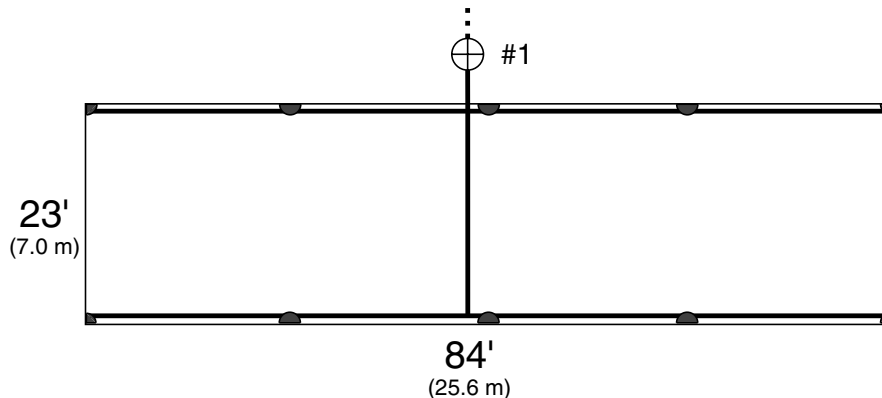
▲ .. PGM-04 180° #2.0 2.0 gpm (0.45 m³/hr; 7.6 l/min)

PGM 2-Row Rotor System Precipitation Rate:

$$\frac{96.25 \times 16 \text{ gpm (total gpm for area)}}{1932 \text{ sq. ft. (23' x 84' = total area)}} = .80''/\text{hr}$$

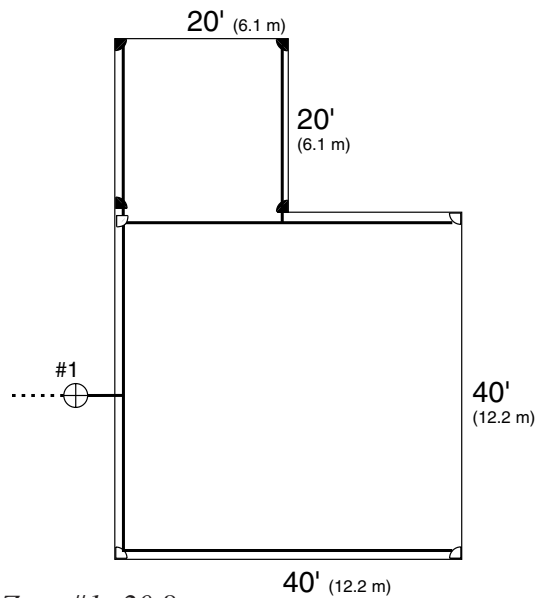
$$\frac{60.6 \text{ l/min} \times 60}{179.5 \text{ m}^2 (7.0 \text{ m} \times 25.6 \text{ m} = \text{total area})} = 20 \text{ mm/hr}$$

$$\frac{3.63 \text{ m}^3/\text{hr} \times 1000}{179.5 \text{ m}^2 (7.0 \text{ m} \times 25.6 \text{ m} = \text{total area})} = 20 \text{ mm/hr}$$



Use PGM on the Same Zone with Other Rotors

Now, when landscapes require smaller areas to be irrigated together with larger areas, the PGM and PGP rotors can be combined on one zone! As shown in this design, one valve can control both the smaller area and the larger area and provide a uniform precipitation rate over the entire landscape. Normally, two valves would have to be installed: one for a spray zone and one for a rotor zone. So, less valves, piping, wire, and stations on the controller are required!



Zone #1 = 20.8 gpm

- PGM-04 #1.0 nozzle 1.0 gpm (0.23 m³/hr; 3.8 l/min)
- PGP-ADV #8 nozzle 4.23 gpm (0.96 m³/hr; 16.0 l/min)

**PGM Precipitation Rate:
(Sprinkler Spacing Method)**

$$\frac{34560 \times 1.0 \text{ gpm}}{90^\circ \times 20' \times 20'} = .98''/\text{hr with PGM set at } 90^\circ \text{ arc}$$

$$\frac{3.8 \text{ l/min} \times 21600}{90^\circ \times 6.1\text{m} \times 6.1\text{m}} = 24 \text{ mm/hr with PGM set at } 90^\circ \text{ arc}$$

$$\frac{0.23 \text{ m}^3/\text{hr} \times 360000}{90^\circ \times 6.1\text{m} \times 6.1\text{m}} = 24 \text{ mm/hr with PGM set at } 90^\circ \text{ arc}$$

**PGP Precipitation Rate:
(Sprinkler Spacing Method)**

$$\frac{34560 \times 4.23 \text{ gpm}}{90^\circ \times 40' \times 40'} = .99''/\text{hr with PGP set at } 90^\circ \text{ arc}$$

$$\frac{16.0 \text{ l/min} \times 21600}{90^\circ \times 12.2\text{m} \times 12.2\text{m}} = 26 \text{ mm/hr with PGP set at } 90^\circ \text{ arc}$$

$$\frac{0.96 \text{ m}^3/\text{hr} \times 360000}{90^\circ \times 12.2\text{m} \times 12.2\text{m}} = 26 \text{ mm/hr with PGP set at } 90^\circ \text{ arc}$$

NOTES



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