



POPE

DIY GUIDE



DRIP IRRIGATION MADE SIMPLE

Drip Watering for Life





Using Drip Irrigation in your garden is EASY!

In three easy steps, this guide will help you understand drip watering and show you how to install your drip irrigation system.

1 Work out what you're watering and any special needs you have, for example burying under mulch or new planting.

2 Decide what product best suits your needs.

3 Install your Pope water efficient drip watering system.

Did you know?

Drip irrigation is a method of applying moisture directly to the desired plants and their root system. Water is distributed slowly and accurately, reducing water loss from wind or evaporation and minimising moisture wasted on weeds, unplanted areas or runoff.



Advantages of Drip Irrigation

Up to 70% savings in water usage due to more efficient delivery and less run-off.



Healthier, more bountiful plants as a result of less over-watering or under-watering.



Easy automated watering by adding a timer or connecting to an underground irrigation system. Eliminates the chores of hand watering.



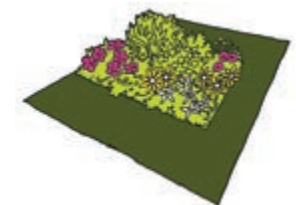
Reduced weed growth by limiting moisture to desirable plants only.



Versatility on flat terrain or sloping landscapes without wasteful run-off or erosion.



Easy system expansion to accommodate new planting areas or to retrofit an existing sprinkler system.







Why Drip Irrigation?



Watering using a Drip System makes sense!

There are a wide range of drip watering products available to help you water your plants efficiently. These include:

Individual Drippers	Inline Drippers (Such as Drip Eze.)	Tricklers	Weeping Hose
			

- Each has their own unique features and uses.
- But no matter what you use, all drip watering systems work by releasing water slowly at targeted areas of the garden.
- Drip watering helps avoid water wastage that can happen through:



The following pages will help you select the product that will be best for you and your gardens' needs.



Look for these symbols:



Trees and Shrubs



Can be Covered with Mulch

Drip Eze - Has built in drippers already situated in the tube for an easy to use roll out system. Each dripper emits 2 litres of water per hour and each dripper is spaced 30cm apart. Connects just like regular poly pipe. 4mm Drip Eze is ideal for looping around trees, bushes, shrubs and hedges and connects easily to 13mm Drip Eze. Can be covered with mulch.



Easy Clean Drippers - Can be placed directly into 13mm poly pipe or used with 4mm poly pipe to get right to the base of the plant. Ideal where plants are spaced randomly. Available in 2, 4 and 8 litre per hour drippers. Can be easily taken apart for cleaning. Use when plants have similar watering needs.



Ultra Drippers - Can be placed directly in to 13mm poly pipe, 13mm Drip Eze or used with 4mm poly pipe to get right to the base of the plant. Ideal where plants are spaced randomly. Available in 2, 4 and 8 litre per hour drippers. Can be easily taken apart for cleaning. Suits slopes and can be covered with mulch. Use when plants have similar watering needs.

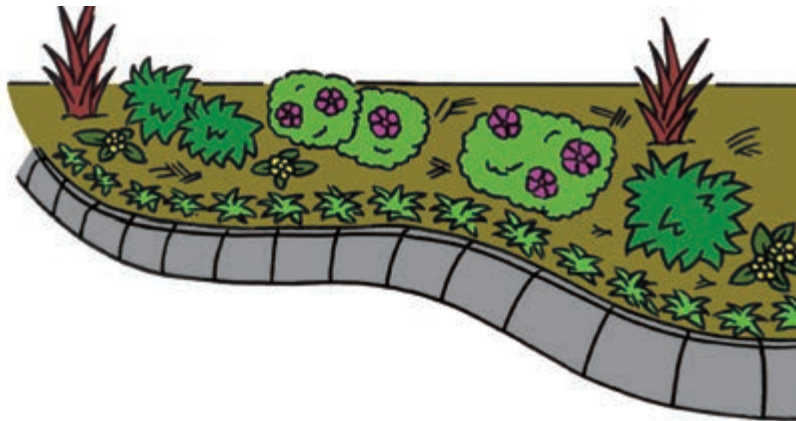


Micro Drippers - Can be placed directly into 13mm or 4mm poly pipe to get right to the base of the plant. Ideal where plants are spaced randomly. Available in 4 litre per hour. Use when plants have similar watering needs.



Water Weeper - Connects directly into a garden hose or poly pipe. Emits water through tiny pores in the hose. Application rate varies depending on water pressure. Can be covered with mulch. 4mm is most suited to looping around trees, bushes, shrubs and hedges.





Micro Drippers - Can be placed directly into 13mm or 4mm poly pipe to get right to the base of the plant. Ideal where plants are spaced randomly. Available in 4 litre per hour. Use when plants have similar watering needs.



Water Weeper - Connects directly into a garden hose or poly pipe. Emits water through tiny pores in the hose. Application rate varies depending on water pressure. Can be covered with mulch. Available in 4mm or 12mm diameter.



Tricklers - Offer variable water flow and wider area coverage than drippers. Can be placed directly into 13mm poly pipe or used with 4mm poly pipe. Ideal for use with plants that have different watering needs.



Drip Eze - Has built in drippers already situated in the tube for an easy to use roll out system. Each dripper emits 2 litres of water per hour and each dripper is spaced 30cm apart. Connects just like regular poly pipe. Use 13mm Drip Eze or 4mm Drip Eze - both can be used with existing 13mm poly pipe and can snake through the garden. Drip Eze can be covered with mulch.



Variable Flow Drippers - Offer variable water flow and a smaller coverage area than tricklers. Can be placed directly into 13mm poly pipe, or used with 4mm poly pipe. Ideal for use with plants that have different watering needs.



Easy Clean Drippers - Can be placed directly into 13mm or 4mm poly pipe to get right to the base of the plant. Ideal where plants are spaced randomly. Available in 2, 4 and 8 litre per hour drippers. Can be easily taken apart for cleaning. Use when plants have similar watering needs.



Tricklers On Spike - Offer variable water flow and wider coverage area. Use with 4mm poly pipe when the flow of water needs to be elevated.



Ultra Drippers - Can be placed directly into 13mm poly pipe, 13mm Drip Eze or used with 4mm poly pipe to get right to the base of the plant. Ideal where plants are spaced randomly. Available in 2, 4 and 8 litre per hour drippers. Can be easily taken apart for cleaning. Suits slopes and can be covered with mulch. Use when plants have similar watering needs.



Look for these symbols:



Beds and Borders



Slopes



Can be Covered with Mulch



Look for these symbols:



Pots and Baskets



Can be Covered with Mulch

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Tricklers - Offer variable water flow and wider area coverage than drippers. Can be placed directly into 13mm poly pipe or used with 4mm poly pipe. Ideal for use with plants that have different watering needs.

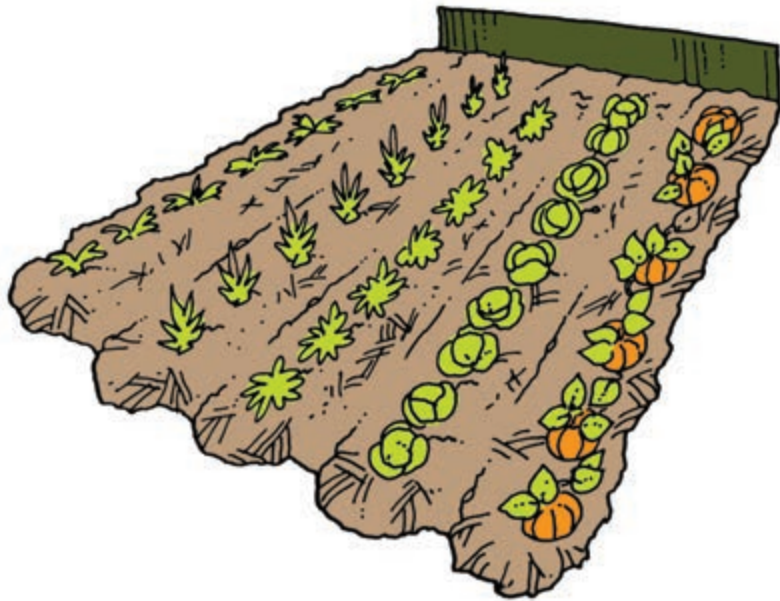


Variable Flow Drippers - Offer variable water flow and a smaller coverage area than tricklers. Can be placed directly into 13mm poly pipe or used with 4mm poly pipe. Ideal for use with plants that have different watering needs.



Tricklers On Spike - Offer variable water flow and wider coverage area. Use with 4mm poly pipe when the flow of water needs to be elevated.





Look for these symbols:



Vegetable and Herb Gardens



Can be Covered with Mulch

Drip Eze - Has built in drippers for an easy to use roll out system. Each dripper emits 2 litres of water per hour and each dripper is spaced 30cm apart. Connects just like regular poly pipe. 4mm Drip Eze can be used with existing 13mm poly pipe to snake through the garden. Can be covered with mulch.



Easy Clean Drippers - Can be placed directly into 13mm or 4mm poly pipe to get right to the base of the plant. Ideal where plants are spaced randomly. Available in 2, 4 and 8 litre per hour drippers. Can be easily taken apart for cleaning. Use when plants have similar watering needs.



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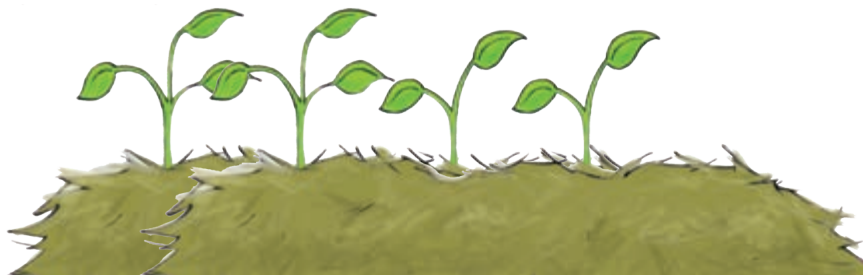


Variable Flow Drippers - Offer variable water flow and a smaller coverage area than tricklers. Can be placed directly into 13mm poly pipe or used with 4mm poly pipe. Ideal for use with plants that have different watering needs.



Tricklers On Spike - Offer variable water flow and wider coverage area. Use with 4mm Poly Pipe when the flow of water needs to be elevated.





Drip Eze - Has built in drippers for an easy to use roll out system. Each dripper emits 2 litres of water per hour and each dripper is spaced 30cm apart. Connects just like regular poly pipe. 4mm Drip Eze can be used with existing 13mm poly pipe to snake through the garden. Can be covered with mulch.



Drip Eze for slopes - Specially designed for even water distribution on slopes. Each dripper emits 2 litres of water per hour and is spaced 30cm apart. Connects just like regular poly pipe. Can be covered with mulch.



Ultra Drippers - Can be placed directly into 13mm poly pipe, 13mm Drip Eze or used with 4mm poly pipe to get right to the base of the plant. Ideal where plants are spaced randomly. Available in 2, 4 and 8 litre per hour drippers. Can be easily taken apart for cleaning. Suits slopes and can be covered with mulch. Use when plants have similar watering needs.



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Water Weeper - Connects directly into a garden hose or poly pipe. Emits water through tiny pores in the hose. Application rate varies depending on water pressure. Can be covered with mulch. Available in 4mm or 12mm diameter.



Look for these symbols:



Slopes



Can be Covered with Mulch

Selecting the right drip solution

Advantages

- Easy to install.
- Suits most drip watering applications.
- Low water emission rate.

Drip Eze - 4mm and 13mm



Water Emission Rate

2

2 LITRES PER HOUR PER DRIPPER



Beds and Borders



Can be Covered with Mulch



Vegetable and Herb Gardens



Suitable for:

- All soil types including sandy, loamy and clay soils.
- Areas up to 50m long.
- Can be covered with mulch.
- Low water pressure.

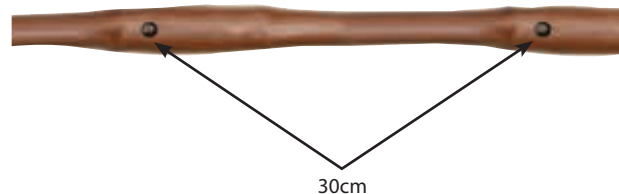


Not suitable for:

- Non mains water tank connections / non-potable water.
- Pots or hanging baskets.
- Slopes.

Drip Eze - 4mm

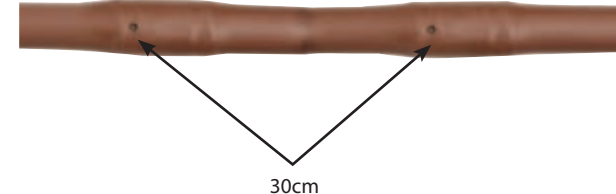
Distance between emitters



Drip Eze - 4mm works with poly pipe or 13mm Drip Eze and is most suitable for being looped around trees and shrubs to run from existing poly tube, or if replacing spray jets.

Drip Eze - 13mm

Distance between emitters



Drip Eze -13mm can be connected to a tap or used with poly tube and is most suitable for garden beds, hedges, nature strips and vegetable gardens.


Selecting the right drip solution




Advantages

- Simple to install.
- Easy to use.
- Ideal for densely planted areas.

Water Weeper - Water seeps through tiny pores



Water Emission Rate



VARIABLE FLOW



✓

Suitable for:

- Connecting to a garden hose.
- All soil types including sandy, loamy and clay soils.
- Garden beds, hedges and nature strips.
- Can be covered with mulch.
- Low water pressure.


✗

Not suitable for:


- Non mains water tank connections / non-potable water.
- Pots or hanging baskets.
- Vegetable or herb gardens.
- Slopes.

Water Weeper - 4mm


Water Weeper - 4mm connects to 13mm poly pipe. Emits water through tiny pores in the hose. Application rate varies depending on water pressure. Ideal for looping around trees and shrubs.



Beds and Borders




Trees and Shrubs




Can be Covered with Mulch

Water Weeper - 12mm


Water Weeper -12mm connects directly into a garden hose or poly pipe. Emits water through tiny pores in the hose. Application rate varies depending on water pressure. Can be gently snaked through garden beds and borders.



Beds and Borders



Trees and Shrubs



Can be Covered with Mulch



Reference Guide

The packaging for Pope Drip Solutions has been coded to suit the needs of your garden. Look for the colour coded packaging which corresponds to your requirements when shopping for products at your local retailer. To save time use the handy parts guide below to make a list of what you need.

														
Product	Code	Quantity	Product	Code	Quantity	Product	Code	Quantity	Product	Code	Quantity	Product	Code	Quantity
13mm Drip Eze - 15m	1010264		Easy Clean Dripper	1010404					12mm Water Weeper - 15m	1011546		13mm Tap Connection Kit	1010253	
			Precision (Ultra) Dripper	1010406		Precision (Ultra) Dripper	1010416		12mm Water Weeper - 30m	1011547		Pressure Reducer 100kPa	1010088	
13mm Drip Eze - 40m	1010276		Micro Dripper	1010409					4mm Water Weeper - 10m	1011543		Pressure Reducer 300kPa	1010089	
13mm Drip Eze - 80m	1010277								Veri Flow® Dripper	1010415		13mm Inline Filter	1011118	
4mm Drip Eze - 20m	1010267								Veri Flow Trickler®	1010402		Loc-Sure Clamps - 13mm	1010085	
									Adjustable Flow Trickler	1010407		13mm Locking Clamps	1010083	
Easy Clean Dripper	1010403								Adjustable Flow Trickler on Spike	1010408		Repair Plugs	1010042	
Precision (Ultra) Dripper	1010405											Hole Punch	1010032	



Easy Clean Drippers / Ultra Drippers

Easy Clean Dripper

Easy Clean Drippers connect straight into 13mm poly tube or can be used with 4mm poly tube.

- Beds and Borders
- Vegetable and Herb Gardens
- Pots and Baskets



Advantages

- Can be placed exactly at each plant's root zone.
- Can be installed onto 4mm tube-reduces the need for poly tube to run past every plant.
- Can be taken apart to be cleaned.
- Low water emission rate.

Ultra Dripper

Ultra Drippers connect straight into 13mm poly tube or Drip Eze and can be used with 4mm poly tube. They are suitable for sloping garden areas or to be covered in mulch. They also inhibit insects from entering and blocking the dripper.

- Beds and Borders
- Slopes
- Can be Covered with Mulch

<p>2 2 LITRES PER HOUR</p> <ul style="list-style-type: none"> • Ideal flow rate for most applications. • Suits sandy soils. 	<p>4 4 LITRES PER HOUR</p> <ul style="list-style-type: none"> • Ideal flow rate for trees, shrubs, bushes and mid to large sized established plants. • Suits loamy or clay soil. 	<p>8 8 LITRES PER HOUR</p> <ul style="list-style-type: none"> • Ideal flow rate for trees, shrubs, native gardens and any plants requiring infrequent but thorough soaking. • Suits loamy or clay soil.
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Suitable for:

- ✓ Plants spaced randomly apart.
- ✓ Targeted and efficient watering at each plant's root zone.
- ✓ Pots or hanging baskets.
- ✓ Areas with low water pressure.
- ✓ Easy to take apart and clean.

Not suitable for:

- ✗ Non mains water tank connections .
- ✗ Non-potable water.

Selecting the right drip solution



Advantages

- Can be placed exactly at each plant's root zone.
- Can be installed onto 4mm tube-reduces the need for poly tube to run past every plant.
- Cost effective.

Micro Drippers



Micro Drippers connect straight into 13mm poly tube or can be used with 4mm poly tube.



Suitable for:

- Plants spaced randomly apart.
- Targeted and efficient watering at each plant's root zone.
- Areas with low water pressure.
- Trees, shrubs, bushes and larger plants.



Not Suitable for:

- Non mains water tank connections.
- Non-potable water.
- Sloping gardens.
- Covering with mulch.



- Ideal flow rate for trees, shrubs, bushes and mid to large sized established plants.
- Suits loamy or clay soil.



Beds and Borders



Trees and Shrubs



Pots and Baskets



Advantage

- Allows the flow of water to be adjusted to suit plants with differing water needs.

Variable Flow Drippers and Tricklers

Variable Flow Drippers



Connect straight into 4mm or 13mm poly tube.



Beds and Borders



Trees and Shrubs



Vegetable and Herb Gardens



Pots and Baskets

Veri-Flow® Dripper adjusts from 0-60 litres per hour.

Low flow rate:

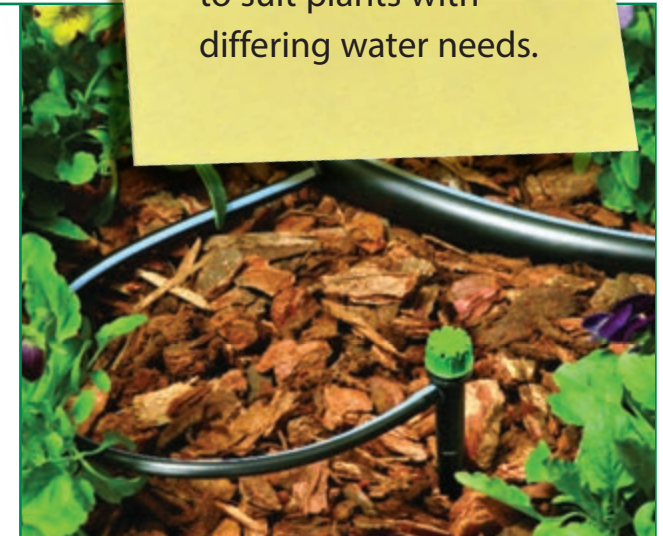
- Sandy soils.
- Potting mix.
- Plants that require less water.

Mid flow rate:

- Loamy or clay soils.
- Established bushes, shrubs and hedges.
- Vegetables and fruiting plants.

High flow rate:

- Heavy clay soils.
- Trees & large plants.
- Vegetables and fruiting plants.



Variable Flow Tricklers



Connect straight into 4mm or 13mm poly tube.



Beds and Borders



Trees and Shrubs



Vegetable and Herb Gardens



Pots and Baskets



Veri-Flow® Trickler

- Adjustable flow rate 0-30 lph.
- Threaded inlet.
- Use with 4mm rigid poly tube.
- Ideal for pots and hanging baskets.
- Trickler action gives larger area coverage.



Adjustable Flow Trickler

- Adjustable flow rate 0-50 lph.
- Barbed inlet.
- Use with 13mm & 4mm poly tube.
- Trickler action gives larger area coverage.
- Ideal for shrubs.



Inline Trickler on Spike

- Adjustable flow rate 0-100 lph.
- 100mm spike elevates trickler.
- Connect to 13mm poly using 4mm tube.
- Trickler action gives larger area coverage.



Suitable for:

- Connecting to poly pipe.
- Plants with different watering needs.
- Pots or hanging baskets.
- Garden beds and borders.
- Hedges, shrubs, bushes & trees.
- Low water pressure.



Not suitable for:

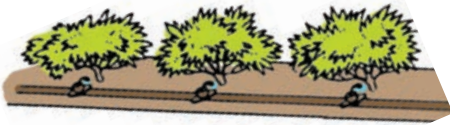
- Sloping garden areas.
- Covering with mulch.
- Non mains water tank connections/ non-potable water.



The difference between Drippers and Tricklers

Drippers

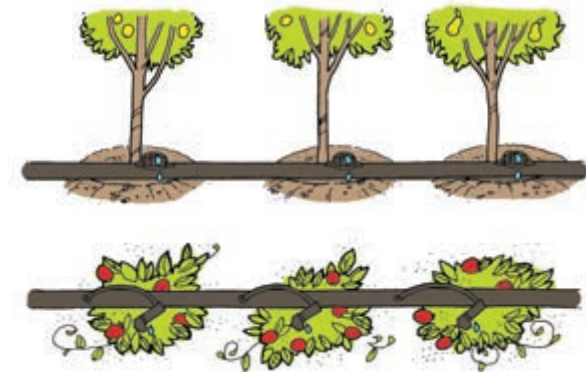
Drippers water a concentrated area.



Fixed Discharge - Dripper Only

Guaranteed to deliver water in an ecologically responsible and efficient manner when used correctly. Use when watering plants that are the same or require the same amounts of water.

- Easy Clean and Ultra Dripper - 2, 4 and 8 L/hr
- Micro Dripper - 4 L/hr
- Drip-Eze - Built in drippers each emitting 2 L/hr



Tricklers

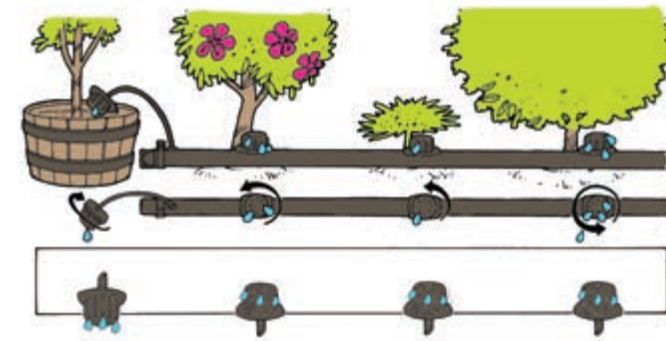
Tricklers water a wider area.



Adjustable Discharge - Drippers and Tricklers

Variable Flow Drippers and Tricklers are adjustable to suit the plant being watered. Just unscrew the cap to increase flow.

- Veri-Flow® Dripper 0-60 L/hr
- Veri-Flow® Trickler 0-30 L/hr
- Adjustable Flow Trickler 0-50 L/hr
- Trickler on Spike 0-100 L/hr



Installing Drip Eze - 13mm



Connecting to a garden hose

Connecting to 13mm poly pipe

You will need:



Tap Ready Garden Hose



13mm Barb to Snap-on Hose Connector



13mm End Plug



13mm Loc-Sure Clamps

You will need:



13mm Barbed Joiner



13mm End Plug



13mm Tees or Elbows



300kPa Pressure Reducer



13mm Loc-Sure Clamps



13mm Filter

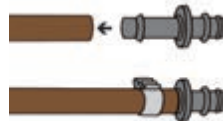
1

Roll out Drip Eze and place in area to be watered.



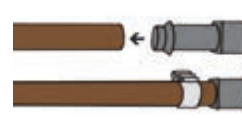
2

Insert the 13mm barb to snap-on hose connector at the end to be connected to the hose. Secure with 13mm Loc-Sure clamp.



3

Insert the 13mm end plug at the end of the Drip Eze. Secure with 13mm Loc-Sure clamp.



TIP!

To customise your watering so that selected plants receive water right at the root zone, add 2 lph Ultra drippers to the Dip Eze. These can be placed as desired in the line. See instructions for installing drippers.

1

Roll out Drip Eze and place in area to be watered.



2

For poly pipe systems use a 13mm barbed joiner to connect to 13mm poly pipe or other 13mm Drip Eze. Secure with 13mm Loc Sure clamps.



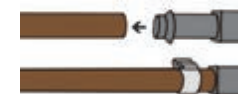
3

For other watering patterns such as grid layouts, you can use 13mm tees and 13mm elbows to cover the desired watering area.



4

Insert a 13mm end plug at the end of the Drip Eze (if required) and secure with a 13mm Loc Sure clamp.



5

Ensure a 13mm filter has been fitted to the start of the line and if connected to a tap, use a 300kPa pressure reducer.



Installing Drip Eze - 4mm



Replacing existing spray watering systems
OR running lengths of 4mm Drip Eze from the main line.

Making loops around trees and bushes

You will need:



Repair Plugs



4mm Barbed Adaptors



Hole Punch

You will need:



4mm Barbed Tees



4mm Barbed Adaptors

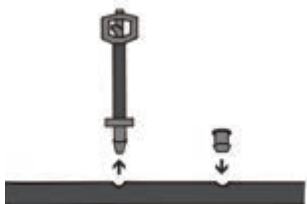


Hole Punch



Repair Plugs (in case of error)

1 Remove existing spray products from your 13mm poly tube. If necessary, repair hole in poly tube with repair plugs.

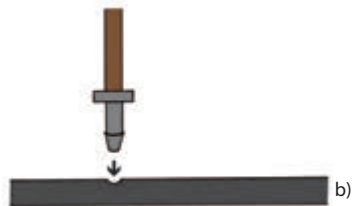


2 Insert the 4mm adaptor into the required length of 4mm Drip Eze. Push into existing hole left by spray system or make a new hole with a hole punch.



a)

3 Plug end of 4mm Drip Eze with a repair plug.



b)

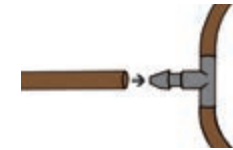
1 Cut the required length of 4mm Drip Eze so it can circle the base of the plant and apply water to the root zone.



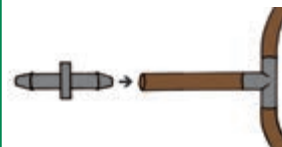
2 Join together using a 4mm barbed tee.



3 Cut another length of 4mm Drip Eze (or 4mm poly pipe) long enough to connect to the main poly or Drip Eze line.



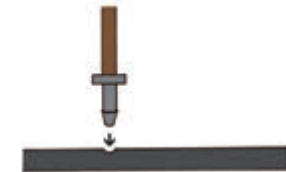
4 Attach a barbed 4mm adaptor to the tail of the 4mm line.



5 Punch a hole in the main line.



6 Connect the "tail" of the loop into the main line.





Installing Waterweeper



Using 12mm Waterweeper

You will need:



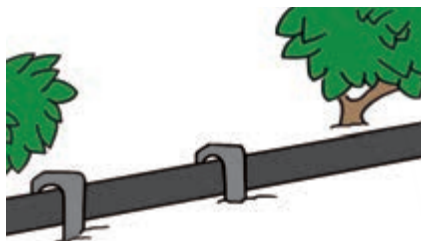
Tap Ready Garden Hose

1

Roll out the Water Weeper and place in area to be watered.

2

Connect to your garden hose.



TIP!

- Use hold down stakes to keep the Water Weeper in place!
- Cover Water Weeper with mulch for greater water saving.
- For best results always turn the tap on slowly with each use until water slowly drips from the Water Weeper.

Using 4mm Waterweeper

You will need:



4mm Barbed Adaptor

Repair Plugs

4mm Barbed Tees

Hole Punch

1

Cut the length of 4mm Water Weeper required.



2

Insert a barbed adaptor into one end, and a repair plug in the other end.



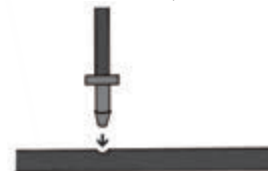
3

Punch a hole in existing 13mm poly tube.



4

insert the barbed end of the cut 4mm piece into the poly tube.



5

Lay 4mm Water Weeper in the area to be watered.



TIP!

For looping around trees, cut the Water Weeper so it can circle the base of the plant and apply water to the root zone. Join together using a 4mm barbed tee. Connect to the poly tube using another length of water weeper and a barbed adaptor.



Installing Dripper Hose



Connecting to a garden hose

You will need:



Tap Ready Garden Hose



100kPa Pressure Reducer

1

Roll out dripper hose and place in area to be watered.



2

Connect to garden hose fitted with snap on connector.



Connecting to 13mm poly pipe

You will need:



13mm Snap Sure Connector



13mm Inline Filter



13mm Poly Pipe



100kPa Pressure Reducer

1

Roll out dripper hose and place in area to be watered.



2

Use a snap on connector at the end of the 13mm poly pipe and connect to dripper hose.



Note:

For new systems being connected to a tap you will need a 13mm inline filter and a 100kPa Pressure reducer connected to your tap.

Installing Easy Clean Drippers / Ultra Drippers

TIP!

To clean drippers unscrew the cap, rinse the dripper and clean debris and grit. Screw the dripper cap back in place.

Placing drippers into 13mm poly tube OR placing Ultra Drippers into Drip Eze

Placing drippers into 4mm poly tube

You will need:



Hole Punch

TIP!

2 lph Ultra Drippers can be inserted into 13mm Drip Eze for extra watering or more localised application of water.

You will need:



4mm Poly Tube



4mm Barbed Adaptor



Hole Punch

- 1 Ensure that the 13mm poly tube is laid out in the best position in your garden.



- 2 Using the hole punch, pierce holes into the 13mm tube, getting as close as possible to the plant's root zone.



- 3 Push the dripper firmly into the poly tube (or Drip Eze for Ultra Drippers).



- 4 If you make an error or need to change the position of any drippers use repair plugs to patch the hole.



- 1 Cut the required length of 4mm poly tube so it can reach the base of the plant applying water to the root zone.



- 2 Fit the dripper to the end of the 4mm poly tube.



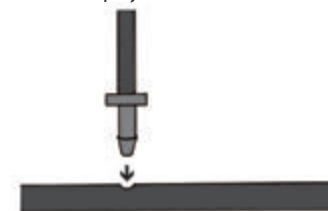
- 3 Fit the 4mm adaptor to the other end of the 4mm poly tube.



- 4 Punch a hole in the main line (the existing 13mm poly tube)



- 5 Push the 4mm barbed adaptor into the hole in the main 13mm poly line.

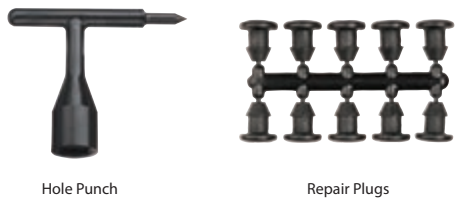




Placing drippers or tricklers into 13mm poly tube

Placing drippers or tricklers into 4mm poly tube

You will need:



Hole Punch

Repair Plugs

You will need:



4mm Poly Tube

4mm Barbed Adaptor

Hole Punch

1 Ensure that the 13mm poly tube is laid out in the best position in your garden.



2 Using the hole punch, pierce holes into the 13mm tube, getting as close as possible to the plant's root zone.



3 Push the trickler or dripper firmly into the poly tube.



4 If you make an error or need to change the position of any drippers or tricklers use repair plugs to patch the hole.



1 Cut the required length of 4mm poly tube so it can reach the base of the plant applying water to the root zone.



2 Fit the trickler to the end of the 4mm poly tube.



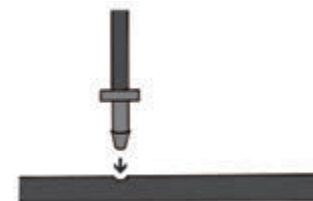
3 Fit the 4mm adaptor to the other end of the 4mm poly tube.



4 Punch a hole in the main line (the existing 13mm poly tube).



5 Push the 4mm barbed adaptor into the hole in the main line.





Connecting to the water source - Using a garden hose based system from your tap

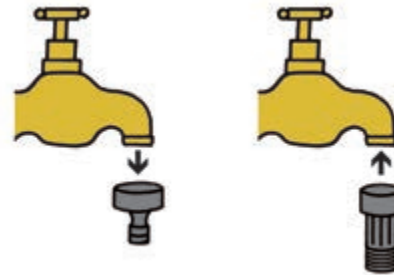
This method gives you the versatility of using your Tap Ready™ garden hose to connect to your system. This means you have flexibility to use your garden hose for many things, and you don't have to worry about burying pipes under paths or driveways.

This style of connection can be used with:

- 12mm Water Weeper
- 13mm Drip Eze
- 13mm Poly Pipe Systems

1

Remove tap nut from tap (if one exists) and attach a pressure reducer to your tap. This will ensure the water pressure is low enough to correctly operate the drip system.



2

Connect a tap nut to the base of your pressure reducer.



3

OR Add a tap timer to the base of the pressure reducer for greater watering efficiency. (Your tap timer should be ready to use without attaching a tap nut.)



4

Snap your garden hose on to the tap timer.



5

Snap the end of your garden hose into your drip system. Water Weeper and Dripper Hose come ready to connect directly to the hose. If you're using 13mm Drip Eze or 13mm poly pipe, fit the start of the pipe with a 13mm barb to snap on hose connector and secure with a Loc-Sure clamp.



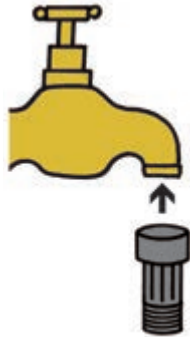
Note: If you're using 13mm Drip Eze or a 13mm poly pipe based system you should use a filter to minimise particles being deposited through the system and blocking the drippers. An inline filter has two barbed ends so it fits easily on the 13mm poly tube or 13mm Drip Eze. This can be situated anywhere in the line, but it must be before the drippers.



Creating a system from your tap - The quick and easy way to install your drip system

1

Fit pressure reducer to the tap. This will ensure the water pressure is low enough to correctly operate the drip system and conserve water.



2

Attach a timer to the base of the pressure reducer for greater watering efficiency.



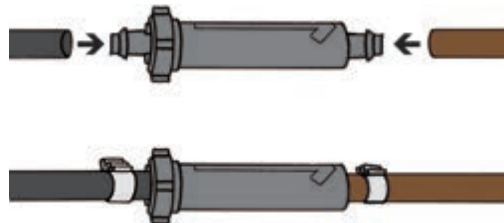
3

Connect a tap nut with 13mm barbed tail to the base of your pressure reducer or tap timer if using one. You can then connect your 13mm poly pipe or 13mm Drip Eze to the barbed outlet.



4

All systems should use a filter to minimise particles being deposited through the system and blocking the drippers. An inline filter has two barbed ends so it fits easily on to 13mm poly tube or 13mm Drip Eze. This can be situated anywhere in the line, but must be before the drippers. Secure with 13mm Loc-Sure clamps.



5

Attach poly tube or Drip Eze to the inline filter and lay in desired location in garden.






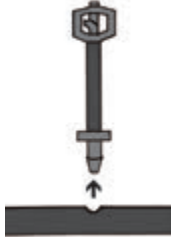





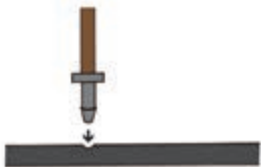

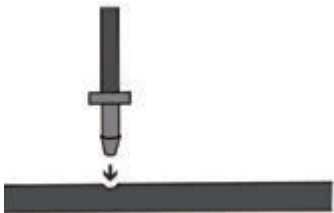

TIP!

Consider using a two way tap to give you more versatility. Use one outlet for your drip system and another for your garden hose!



Using Drippers or Tricklers

Using 4mm Drip Eze or 4mm Water Weeper

<p>1 Remove existing spray jets.</p> 	<p>2 Repair holes with repair plugs (if not using existing positions).</p> 	<p>3 Place drippers directly into existing holes (or use a hole punch to create new holes).</p> 	<p>1 Remove existing spray jets.</p> 	<p>2 Repair holes with repair plugs (if not using existing positions).</p> 
<p>OR</p>			<p>3 Cut required lengths of 4mm Drip Eze or Water Weeper.</p> 	<p>4 Add a 4mm barbed adaptor to one end of the 4mm Drip Eze or Water Weeper and place a repair plug at the other end.</p> 
<p>1 Attach dripper to a length of 4mm poly tube.</p> 	<p>2 Insert a 4mm barbed adaptor into the other end of the 4mm poly pipe.</p> 	<p>5 Using the existing holes left by the spray system, insert the barbed end of the 4mm Drip Eze or Water Weeper into the existing line (or create a new hole in the existing poly line).</p> 	<p>6 Place 4mm Drip Eze or Water Weeper in the required position throughout the garden.</p> 	
<p>3 Push 4mm poly with adaptor into the new or existing hole.</p> 	<p>4 Place dripper in required position.</p> 			



Watering using drippers and tricklers

Using drip systems in your garden

Drip systems use low pressure from your tap. Always remember to use a filter with drip systems and a pressure reducer to ensure low operating pressure.

Use this table as a guide for watering your garden.	Drippers	Drippers	Drippers	Micro Dripper	Veri-flow® Dripper	Veri-flow® Trickler	Drip Eze	4mm Water Weeper	12mm Water Weeper
flow rate per emitter	2 lph	4 lph	8 lph	4 lph	0 - 60 lph	0 - 30 lph	2 lph	120 lph per 10m	240 lph per 15m
seedlings	10 minutes	5 minutes	3 minutes	5 minutes	up to 5 minutes	up to 5 minutes	10 minutes	10 minutes	5 minutes
small established shrubs	30 minutes	15 minutes	10 minutes	15 minutes	up to 15 minutes	up to 15 minutes	30 minutes	30 minutes	15 minutes
larger shrubs	45 minutes	25 minutes	15 minutes	25 minutes	up to 25 minutes	up to 25 minutes	45 minutes	45 minutes	25 minutes
flower beds	30 minutes	15 minutes	10 minutes	15 minutes	up to 15 minutes	up to 15 minutes	30 minutes	30 minutes	15 minutes
vegetables	30 minutes	15 minutes	10 minutes	15 minutes	up to 15 minutes	up to 15 minutes	30 minutes	30 minutes	15 minutes
trees	1 hour	30 minutes	15 minutes	30 minutes	up to 30 minutes	up to 30 minutes	1 hour	1 hour	30 minutes

Note: Watering times highlighted above are based on operating pressure of 150kPa. Use as a guide only.

Watering times will vary based on your soil type and weather conditions.

Water sandy soil more frequently and water clay soil less frequently (refer to the diagram on page 28 to check what type of soil you have).





Accessories you may need

To make your drip system the most effective, you may need to consider these products.

Use this table as a guide for what you may need for installing your drip irrigation system.	Loc-Sure Clamps	Locking Clamps	Repair Plugs	Pressure Reducer	Punch	Hold Down Stake	Inline Filter
Size	13mm or 19mm	13mm or 19mm	4mm	Fits 3/4" or 1" garden taps	Punches holes for drippers and 4mm fittings	For 13mm Poly Tube, Drip Eze or 12mm Water Weeper	13mm or 19mm
Use	Used to secure barbed fittings to poly pipe or Drip Eze. Loc-Sure Clamps are the most suitable clamps for drip systems.	Used to secure barbed fittings to poly pipe or Drip Eze. Easy to use, can be squeezed tight by hand.	Use when repairing holes in 13mm poly pipe or Drip Eze, or as an end peg for 4mm pipe or Drip Eze.	Lowers the available pressure from your garden tap to a suitable level for drip irrigation. Fits directly onto your garden tap.	Easily and quickly punches holes in 13mm poly pipe or Drip Eze to make inserting drippers or tricklers easy. Also used for inserting 4mm adaptors into 13mm tubing.	Secures tubing in place. Particularly useful when using bends and curves. Stakes ensure line does not lift or move so that water is distributed in the right place.	Should be used in every drip application to ensure that dirt or particles are filtered from the water before reaching the dripper system. Connects to 13mm or 19mm tubing with Loc-Sure or Locking Clamps.



← Look for products with this symbol.



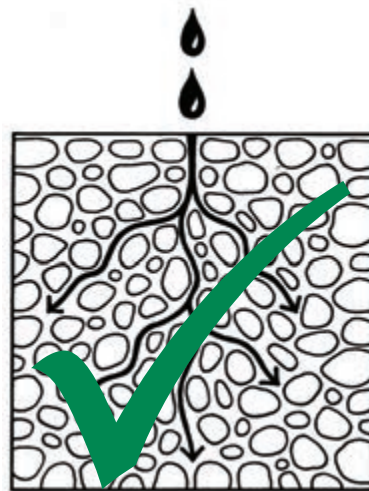
Sandy soil and potting mix

Sandy soil and potting mix have very fast drainage. This means you should use drippers with lower emission rates so the water seeps more slowly into the soil and water can be absorbed by the root zone, rather than bypassing the roots.

Fast Water Emission Rate



Slow Water Emission Rate



Larger plants such as trees, shrubs & bushes

Established plants generally require more water than smaller or younger plants and they require it less frequently. Often, a good long soak is recommended.

Consider using higher flow rate products such as 4 or 8 litre per hour drippers and ensure coverage is around the root areas of the trunk.



Where to Place Drippers



Drippers should be placed almost in line with the width of the tree.

Loop around Trees

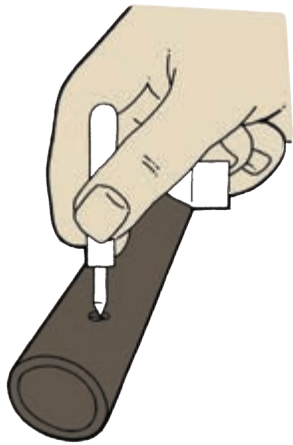


Drippers should be spaced evenly around the tree.

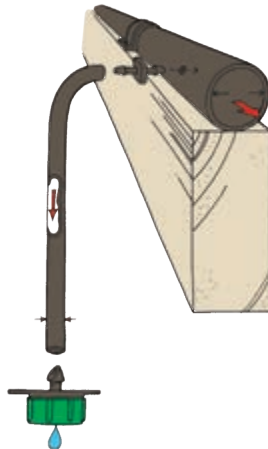


More Handy Hints

Use a Punch to pierce holes in 13mm poly pipe.



For hanging baskets, use 4mm poly and a 4mm adaptor to apply water direct to basket.



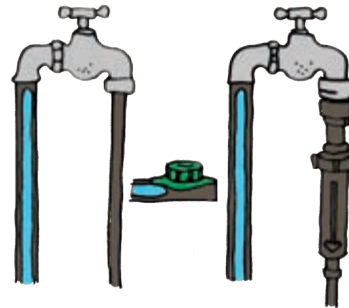
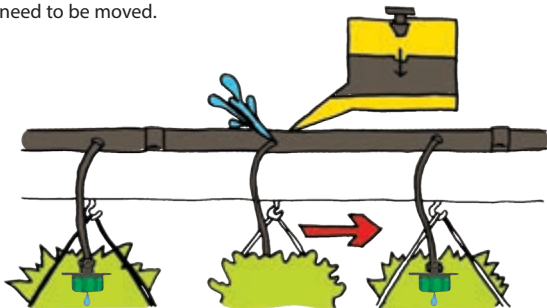
Using a pressure reducer lowers the available pressure from your garden tap to a suitable level for drip irrigation.



For potted plants use drippers, poly and a 4mm adaptor to water the base of the plant.



Use a Repair Plug if fittings need to be moved.



Always use a filter, to prevent particles from blocking drippers and clean out your filter regularly.

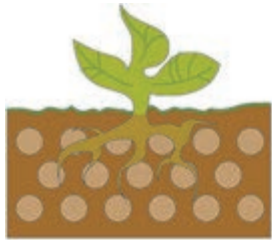




How much water does your soil hold?

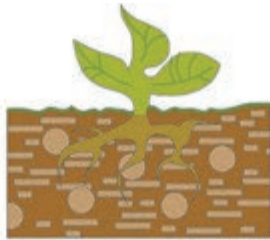
Check your soil type to calculate how much water your soil will hold. This will help you understand how often you should water.

- Grab a hand-full of soil and squeeze it gently with your fingers (don't do this when the soil is very wet or very dry). Open your fist and gently poke at the soil.



Sandy Soil

If the soil falls apart completely you have sandy soil which allows water to run straight through and therefore plants don't get enough water and dry out quickly.



Loam Soil

If the soil gently breaks into small clumps, you have loam which is the ideal soil. It contains a mix of particles, allowing water to move more slowly through the soil.



Clay Soil

If the soil stays tightly in a clump, you have clay soil which doesn't allow water to flow through it therefore roots don't grow well, and plants get waterlogged.

As a general rule sandy soil will need to be watered more frequently than loamy or clay soil which will hold more water.

Watersmart Checklist: Save water in your garden!

1

Check the light

How many hours of direct sun does each area of your yard get? This will influence how often you need to water.



- 1 to 4 hours of sun or 3 to 6 hours of dappled sunlight means you have a shade garden.



- 4 to 6 hours of sun or 6 to 8 hours of dappled sunlight means you have partial shade.

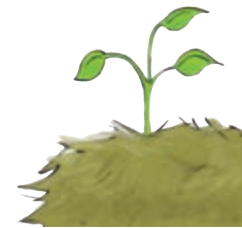


- More than 6 hours of sun a day means you have a sun garden.

2

Check you compost levels

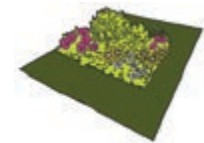
No matter what type of soil you have, adding organic matter allows for the ideal flow of water through the soil. You can easily make your own at home. By using compost or mulch in your garden you can stop water loss through evaporation and also prevent soil erosion. Mulching can prevent up to 73% of soil evaporation loss whilst it also restricts weed growth.



3

Check your plants and placement

Select plants and grass suited to your climate, the amount of light, and soil type. Native plants are the best choices. Incorporate "hydrozones" within your landscape. Hydrozones are areas where you can group plants with similar water requirements.



4

Check your garden is weed free

Weed! Be on top of your weeding in the garden. Weeds compete with the plants in your garden for water. Be water wise and don't water the weeds!





Glossary of terms

Drip Eze

Unlike standard poly pipe that must have drippers manually inserted, Drip Eze has emitters that are inserted inside poly pipe as it is being produced. The emitters are welded to the inside of the wall resulting in a hassle free rugged and economical watering solution. Installation is especially easy - just unroll the tubing, connect to the water source and you're done.



Drip Eze is available in 4mm and 13mm diameters, and is suitable for covering with mulch.

Drip Irrigation System

A complete arrangement of products that when put together deliver water from the source to the garden. A system may include devices such as timers or controllers as well as other individual components.

Dripper

A water emitting device that delivers a slow rate of water to the garden. Generally, drippers emit a precise amount of water that is controlled through some type of regulating device within the dripper itself.

Filter

A filter is always recommended when using drip watering products. A filter will block dirt and other particles that may enter the drip system, blocking drippers and making them less effective. Filters should be cleaned of debris regularly and should always be installed before the first emitter in the system.

Fixed Flow (or discharge)

A fixed amount of water that is emitted. For example, 2 litres per hour.

Inline Drippers

Inline drippers are drip emitters that are pre - inserted into a hose or pipe system. Inline drip systems include Drip Eze and Dripper Hose.

kPa

The abbreviation for kilopascals. This is a measure of pressure used with water flow. For example, 100 kPa would be typically considered low pressure, while 700 kPa or more would typically be considered high pressure. Pressure gauges can be used to accurately determine water pressure if required.

Loc-Sure Clamps

Loc-Sure clamps are manufactured from a metal alloy and are recommended for use with all drip applications. They have a high resistance to corrosion, will not be damaged or become brittle with exposure to UV rays. This means that they are the most secure method for securing poly pipe or Drip Eze and fittings together. This is particularly beneficial for drip systems which may be run at higher pressures for longer periods than other fixed watering systems.

LPH

The abbreviation for "Litres per Hour". LPH is used to measure flow or the rate of movement of water in drip irrigation systems.

Pressure Reducer

A device that is fitted to the water source that restricts the flow of water to a predetermined level. In most drip applications 100kPa or 300kPa pressure reducers should be used.

Slopes

Some drippers are designed to perform on sloping ground. In industry terms this is called "Pressure Compensation (PC)". PC emitters are specially designed to deliver the same precise amount of water regardless of their location in the installation. For example, a pressure compensating dripper will deliver the same amount of water as one located 10 metres downstream. Their consistent flow rate makes them ideal for sloping landscapes.

Spacing

The distance between emitters or rows of emitters. Drip Eze contains pre-installed emitters spaced every 30cm while Dripper Hose has pre-installed drippers spaced every 10cm.

Ultra Drippers

Drippers that provide optimum utility in the garden. They can be used on slopes, can be covered with mulch, resist the ingress of insects and can be easily taken apart and cleaned.

Variable Flow (or discharge)

A variable amount of water that is emitted. This may be because the flow is manually adjustable or because the product has an imprecise delivery of water.

Water Pressure

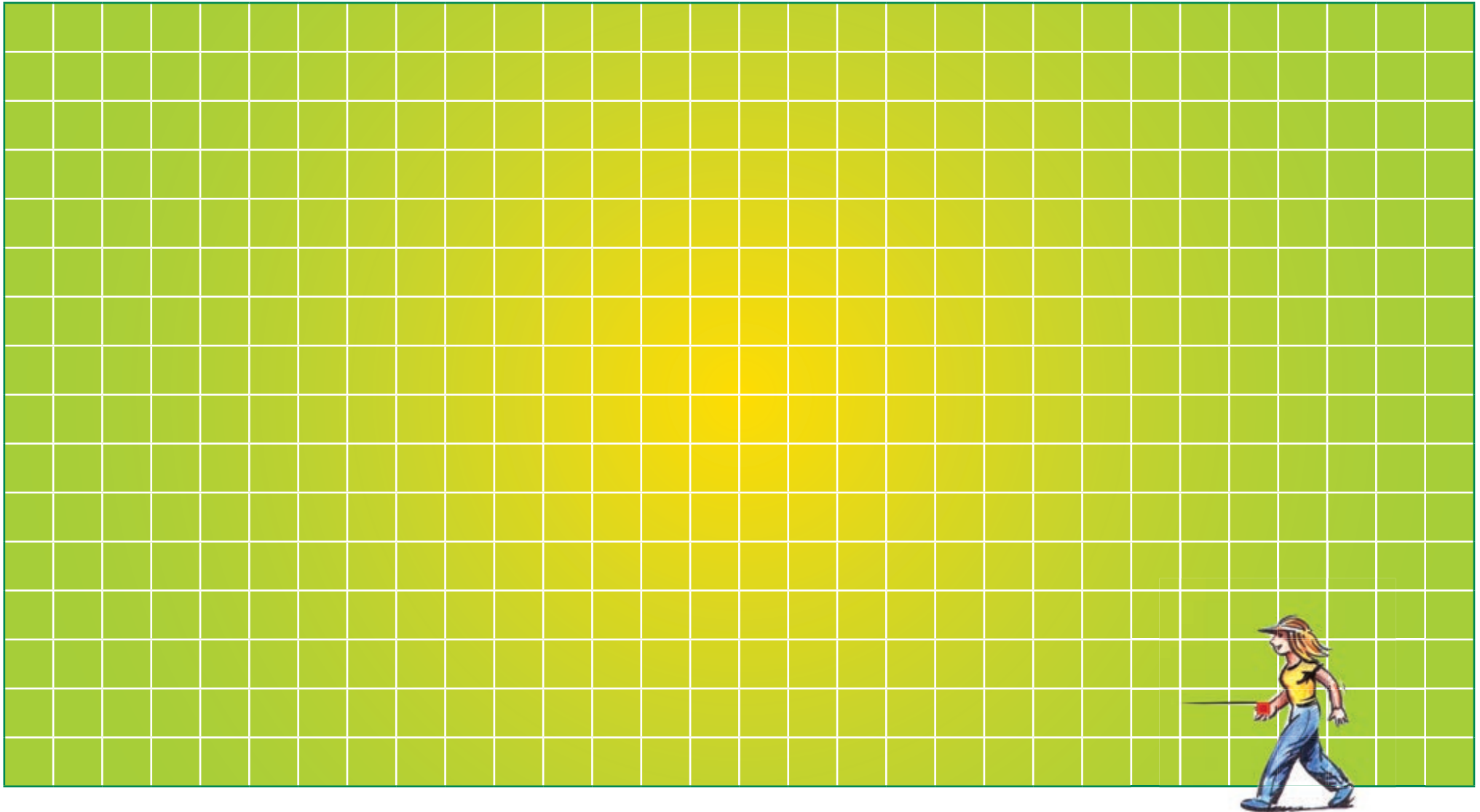
The "force" with which water is discharged for example from a tap, a water tank etc.

Weeping Hose

Typically made of recycled rubber, weeping hose is constructed with thousands of tiny pores that allow small droplets of water to escape along the entire length and all around the hose. Unlike emitters with a controlled flow rate, weeping hose may have varying water emission rates, depending on the pressure under which they are operated and the length of the hose overall.



Drawing to scale Use a tape measure to measure your borders. One square equals one metre.





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POPE DIY GUIDE



INSTALLATION OF LAWN POP-UPS

BASIC IRRIGATION SYSTEM

To help you better understand what your irrigation system is made of, and how it will operate, take a look at the following diagram. The following components will bring your system to life. This guide will focus on lawn pop-ups.



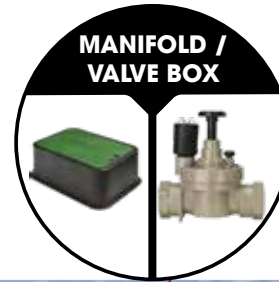
The controller is the “brains” of the system. It determines which watering zone operates, when it turns on and how long it runs for. External controllers are fine to be mounted outside in the weather, but should be mounted close to a 240 volt power source.



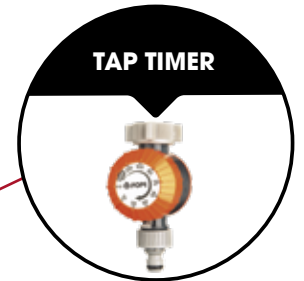
Drip Eze tubing is the most efficient way to water garden beds and other small areas. It is made up of inbuilt drippers at fixed flow rates, which are placed at fixed spacings to give even coverage throughout the garden bed.



Drippers and sprays are two different ways to water small parts of your garden. A dripper will slowly release water over time that sinks deep within the soil. This is better for established plants with deeper root bowls, in windy areas. Sprays involve spraying water over a small area in an uncontrolled manner. This is great for getting leaf and top soil coverage. Perfect for ferns or other plants that have leaves built for catching water droplets.



The manifold/valve box is a sealable box that is mounted in the ground on a bed of pebbles. The valve manifold sits inside this, with outlets to all of your watering zones. Manifolds consist of a PVC or poly manifold and multiple solenoid valves. These are the gateways of water to your zones and are controlled by irrigation cable that is run from the controller. The manifold/valve box can be mounted in the most convenient location for your installation, but should be located centrally to all your zones.



Tap timers offer basic operation to your irrigation system. They don't require any additional valves or wiring so are often considered an easy way to get into automated watering. They can be connected to a standard garden tap and often come with 25mm/20mm adaptors. You can remove the bottom 12mm hose connector and add tap nuts, directors or pressure reducers. They don't offer as much individual programming so may not suit complicated watering setups.



Pop-up sprinklers are designed to distribute water evenly over lawn surfaces. The spray mimics a soaking rain. Pop-ups normally have 15mm inlet threads and come with variable arc nozzles or fixed spray nozzles. Both have various throw characteristics. Pop-ups should be placed evenly apart with the spray reaching from the head of one sprinkler, to the head of the next sprinkler. This ensures full coverage and no dry spots.

Pop-ups are the ultimate in water delivery systems for your lawn and garden. They offer great usability while being concealed when not in use and are specifically designed as part of a system to offer maximum water efficiency. Pop-up sprinkler systems are ideal for many different types of gardens. They can be used to water grass areas to flower beds and borders too.

CALCULATING YOUR FLOW RATE

How many sprinklers your system can run at one time depends on how much your home can supply. Your flow rate will determine the total number of pop-up sprinklers you can use at any one time. Different pop-up sprinklers will have their own flow rate. An easy way to calculate your flow rate is by doing a bucket test. All you need is your garden tap, a standard 9 litre bucket and a stopwatch. Before you start, make sure you measure your water flow at times of peak water usage. If using a tap timer or pressure reducer, make sure you measure the flow with the device fitted.

BUCKET TEST INSTRUCTIONS

- 1 Place your 9 litre bucket under your garden tap, and turn the tap on full boar.
- 2 Using your stopwatch, time how long it takes the water to reach the 9 litre mark.



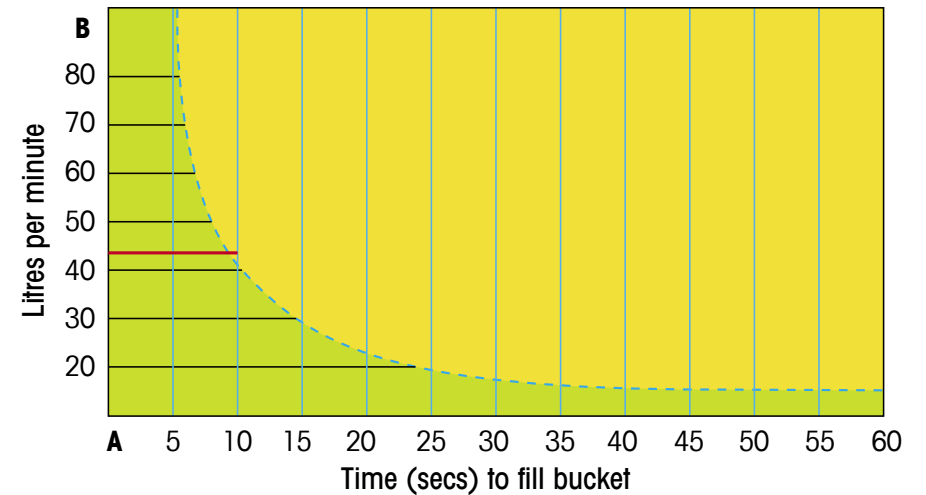
- 3 Use the following formula to calculate the flow rate:

$$60 \div (\text{seconds taken to fill bucket}) \times (\text{bucket size in litres}) = \text{flow rate}$$
 E.g. $60 \div 12 \times 9 = 45$ litres per minute

You can also use this chart to determine your flow rate.

For example, if it takes 10 seconds to fill your 9 litre bucket, move along the horizontal axis of the chart (A) to the 10 second point to the dotted line, and across the horizontal red line to the vertical axis of the chart (B).

This shows that your flow rate is 43 litres per minute.



Note: It's important to ensure that when the flow rates for each pop-up sprinkler are added together, the total flow rate (or litres per minute) does not exceed your garden taps flow rate.



Selecting the Most Suitable Pop-up Sprinkler



MASTER

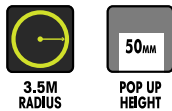
SUITABLE FOR SMALL LAWNS



	1/4 Circle Nozzle	
		AT 175 kPa
	1/2 Circle Nozzle	
		AT 175 kPa
	3/4 Circle Nozzle	
		AT 175 kPa
	Full Circle Nozzle	
		AT 175 kPa

FEATURES

- Fixed spray pattern.
- Available in 1/4, 1/2, 3/4 or full circle patterns.
- Suitable for small lawn areas.
- 50mm pop-up height.
- Adjustable spray radius.



PROFESSIONAL

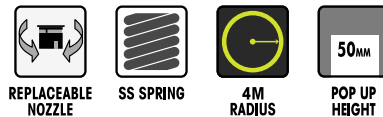
SUITABLE FOR SMALL TO MEDIUM LAWNS



	1/4 Circle Nozzle	
		AT 175 kPa
	1/2 Circle Nozzle	
		AT 175 kPa
	3/4 Circle Nozzle	
		AT 175 kPa
	Full Circle Nozzle	
		AT 175 kPa

FEATURES

- Fixed spray pattern.
- Uniform coverage.
- Low maintenance.
- Available in 1/4, 1/2, 3/4 or full circle patterns.
- Suitable for small or medium lawn areas.
- 50mm pop-up height.



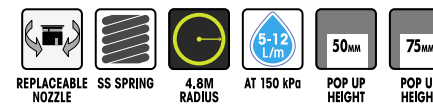
PRECISION

SUITABLE FOR SMALL TO MEDIUM LAWNS



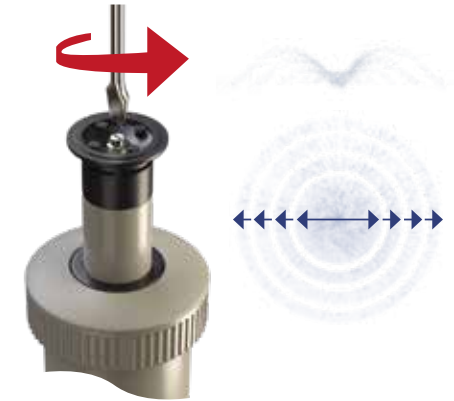
FEATURES

- Variable arc nozzle.
- Adjustable pattern nozzle for greater water flexibility.
- Pattern adjustment from 0° to 360°.
- Uniform coverage.
- 50mm and 75mm pop-up height.
- Suitable for small to large lawn areas.



ADJUSTING SPRAY

Use a screwdriver to adjust the water flow for the Master, Professional and Precision Series. To reduce the throw, turn screw to the right. To increase, turn screw to the left.



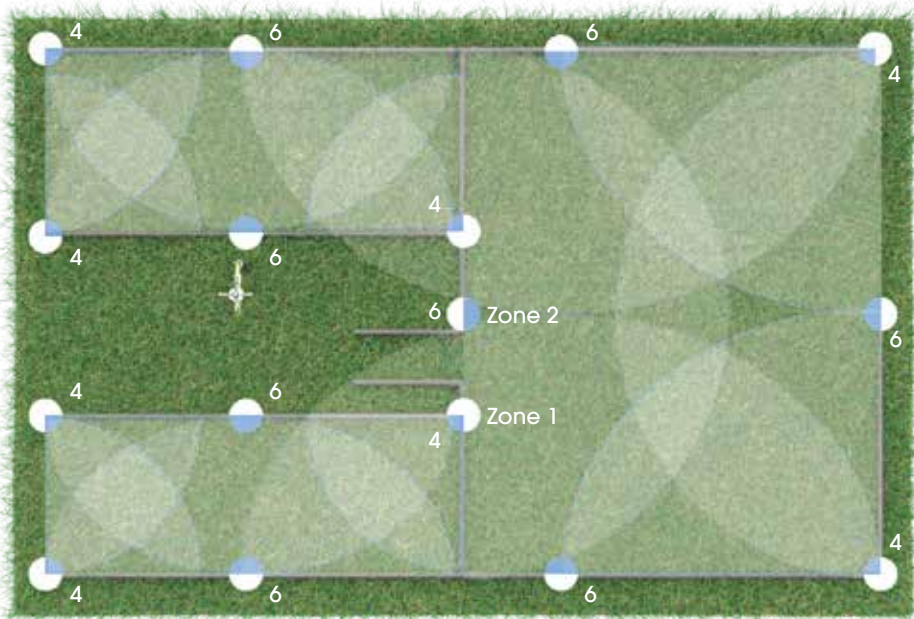
To adjust the arc for the Precision Series, simply twist the nozzle.



CALCULATING THE NUMBER OF POP-UPS REQUIRED

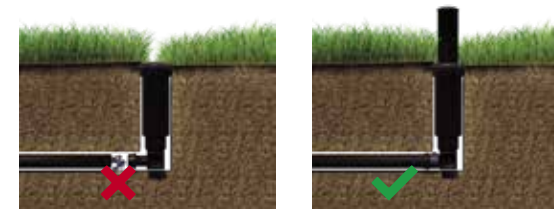
HEAD TO HEAD WATERING

For proper coverage, space your sprinklers so that the watering patterns overlap. Sprinklers must always be spaced at distances equivalent to their radius of throw. For example, if your sprinkler has a radius of 2 metres you should place your sprinklers two metres apart, so that the edge of the "throw" touches the head of the next sprinkler.



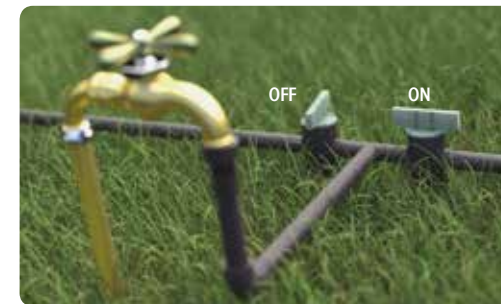
INSTALLATION TIPS FOR POP-UP SYSTEMS

- Avoid utility and communication lines when digging.
- Use 19mm locking clamps on all barbed fittings and place your pop-up heads level with the base of your grass.
- Low density poly pipe can only withstand pressure of 300kPa. If your water pressure exceeds 300kPa, you should use a pressure reducer. Pope's Inline Timer Pressure Reducer is suitable for all applications and will reduce your available pressure to 300kPa. This will relieve longer term problems such as leaking, that may arise with your irrigation system downstream.



INLINE TAPS

If you do not want to install solenoid valves to separate your zones, you can use manual inline taps. These will allow you to get the required pressure to operate your required number of pop-ups.



WARNING: When pipes are damaged, back flow occurs polluting household water. Please contact your local water authority for advice on installing an approved back flow prevention device.

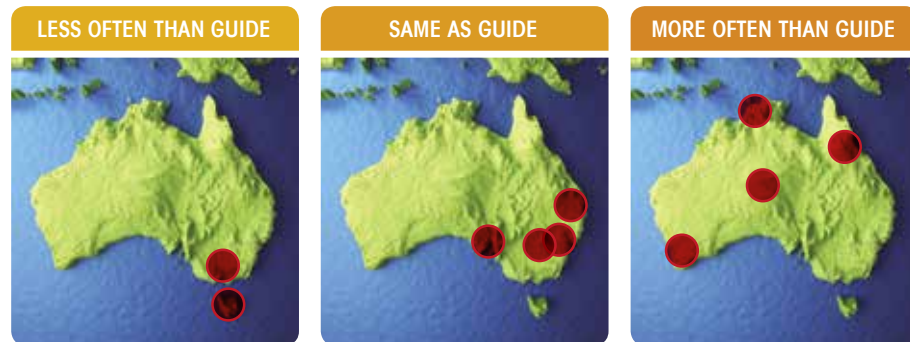
Watering

HOW LONG AND WHEN SHOULD I WATER?

Getting the amount of water right is just a combination of knowing what type of soil you have, how long you need to water, and how often you need to water. Different soils hold different levels of water.



This guide has been put together using average weather conditions. Use the locality guide below to adjust your watering for your area.



During periods of Water Restrictions, consult your local water authority for compliance to local restrictions.

Please Note: Water distribution rates vary from sprinkler to sprinkler and from manufacturer to manufacturer. This guide has been precisely calculated for Pope sprinklers, jets and drippers. Using these guidelines for products not listed may result in under or over watering.

Water your garden for the time length below, each time you water. Use the "When should I water" chart to determine how often you should water.

	POP-UPS	HOSE AND SPRINKLERS			
	Professional Pop-up 	Partner Sprinkler 	Canberra Sprinkler 	Oscillator Sprinkler 	Impact Sprinkler
SAND	5-10 minutes	1-5 minutes	5-10 minutes	15-25 minutes	5-15 minutes
CLAY	10-20 minutes	5-10 minutes	20-25 minutes	40-60 minutes	20-30 minutes
LOAM	20-30 minutes	5-10 minutes	10-15 minutes	30-50 minutes	15-25 minutes

	Very hot > 35 	Hot 30-35 	Very Warm 25-30 	Warm 20-25 	Mild 15-20 	Rain - Cold
SAND	Every 1 Day	Every 1 Day	Every 2nd Day	Every 3rd Day	Every 4th Day	X
CLAY	Every 3rd Day	Every 3rd Day	Every 4th Day	Every 5th Day	Every 6th Day	X
LOAM	Every 3rd Day	Every 4th Day	Every 5th Day	Every 6th Day	Every 7th Day	X

Please Note: This Publication is presented as a **guide only** and while every care has been taken in recommending **when to water** and for **how long**, the guide can not account for every situation, weather condition, soil type and plant type. There is no substitute for careful observation and local experience. Please ensure you follow any local water restrictions in place. Water conservation principles including deep and infrequent watering have been used to formulate the guide.

For further information about water conservation please contact your local water authority.

FREQUENTLY ASKED QUESTIONS

Q: Do I need to install a timer to my irrigation system?

A: No, it is possible to install an irrigation system without a timer, but the benefits of having one will be greater as part of your watering system.

Q: Why is my sprinkler head not popping up?

- A:**
- Clean the sprinkler head and the plastic screen basket so it is not clogged with dirt or other debris.
 - Check your water pressure to make sure it is not too low. Make sure that the valves on your backflow device are fully open. You may need to separate the system into Zones to make sure each pop-up is getting the required pressure and flow.
 - Check for any leaks in the water line which can cause low water pressure and keep water from flowing to the sprinkler head.
 - One of the most common reasons is a broken sprinkler head, if it is cracked or has broken pieces it will need to be replaced. Consider using a sprinkler surround or sinking the sprinkler lower so your mower doesn't hit the sprinkler head.

Q: Can I install sprinklers on slopes?

A: Yes, when installing sprinklers on slopes position heads closer together on the uphill side of the pattern because gravity will shorten the spray throw. Also, to prevent erosion and uneven watering uphill, align sprinkler heads perpendicular to the slope.

Q: How many pop-ups can I run?

A: This depends on the flow rate you are able to achieve from your water source. Check page 3 for details on how to get your flow rate. You then need to look at the flow consumption of the pop-up sprinkler.
e.g. if you have a 45LPM flow rate, you can run 7.5 Half Circle Professional sprinklers as they use 6 lpm ($45 / 6 = 7.5$).

Q: How do I maintain my pop-up watering system?

- A:**
- Trim back grass or prune vegetation growing around the pop-up heads.
 - Clean the mesh filter monthly by removing the filter and rinsing it thoroughly.
 - At least once a year take apart, clean, inspect and replace any damaged parts.

CLEANING AND FLUSHING YOUR SYSTEM

Your irrigation system needs to be cleaned after your initial installation and also occasionally to remove dirt and debris.

The below shows how to disassemble a precision pop-up without removing it from the system. Other pop-ups may have the components arranged in a different way.



Step 1
Unscrew the pop-ups cap.



Step 2
Pull up the riser by gripping the wiper seal.



Push down and hold the wiper

Then twist to unscrew the nozzle

Step 3
Hold the wiper seal down and unscrew the nozzle. Be careful not to let the spring go.



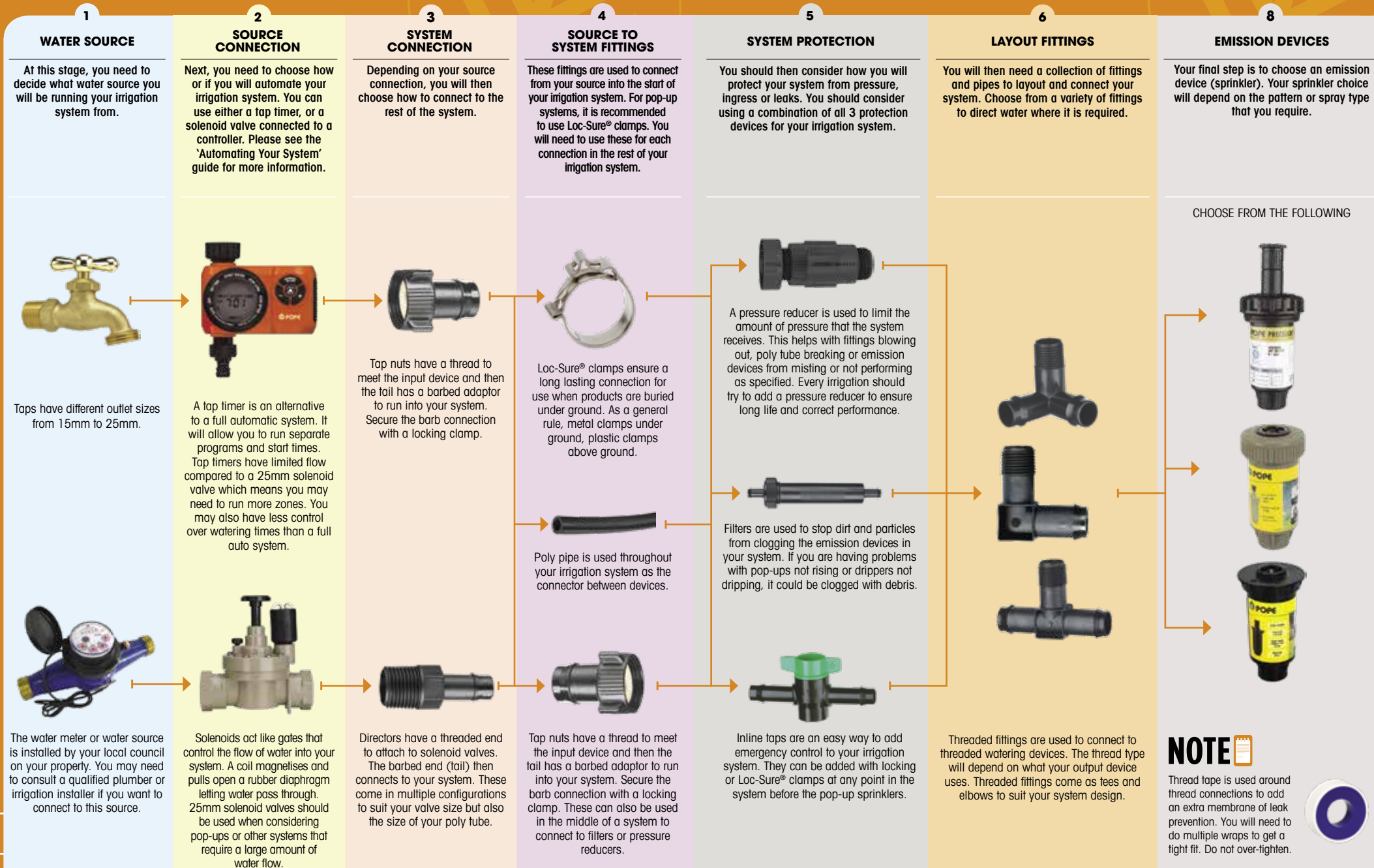
Step 4
Remove the filter, wiper seal, spring and ratchet ring.

Step 5
Clean all debris and grit from all parts and re-assemble.



Step 6
Flush the system until water runs clear.

Step 7
Re-assemble all parts





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