Lawn Genie®

Automatic Watering System

Easy Step-By-Step Planning and Installation Guide

Give Your Yard Exactly the Water it Needs

Every landscape is unique. Foliage varies and so do patterns of sun and shade. That's why different parts of your yard need different amounts of water at different times. Your Lawn Genie automatic sprinkler system lets you divide your yard and garden into separate areas based on the individual watering needs. Once you've installed your system, all you need to do is set the watering schedule that's right for each area. Your Lawn Genie components automatically do the rest — week after week.

WE CAN LAY OUT YOUR SYSTEM FOR YOU

You can use this guide to plan the layout of your sprinkler system, or if you prefer you can let Lawn Genie's Computerized Design Service plan your system. To do so, you should do the following:

- Draw out your yard on the grid on page 13 to a scale of 1 inch = 10 feet, 1 inch = 20 feet or 1 inch = 30 feet showing the measurements on the drawing.
- Mark down your water meter size, supply line size and water pressure as determined on page 4.
- If you are using a pump, you should also include your gallons per minute.
- Write your name, address, phone number, plus the name and address of the store where you intend to purchase your sprinkler system components, next to the grid on page 12.
- Mail or fax your graph paper layout and questionnaire to:
  Lawn Genie Design Center
  5825 Jasmine Street
  Riverside, CA 92504
  Fax: (800) 504-4978

We will mail a complete computer generated layout to you showing the head and valve locations, plus all the piping required for your new system. You will also receive a parts list itemizing everything you will need to purchase for your system. It's that easy!

Add Up The Benefits of Lawn Genie's Easy to Install System

YOU'LL SAVE TIME

Once you've set your system timer your Lawn Genie automatic sprinkler system takes care of the rest. Week after week, it remembers precisely how much to water and how often, for each area of your yard. So you have the freedom to come and go as you please, knowing that your lawn and garden are being well cared for.

YOU'LL SAVE WATER

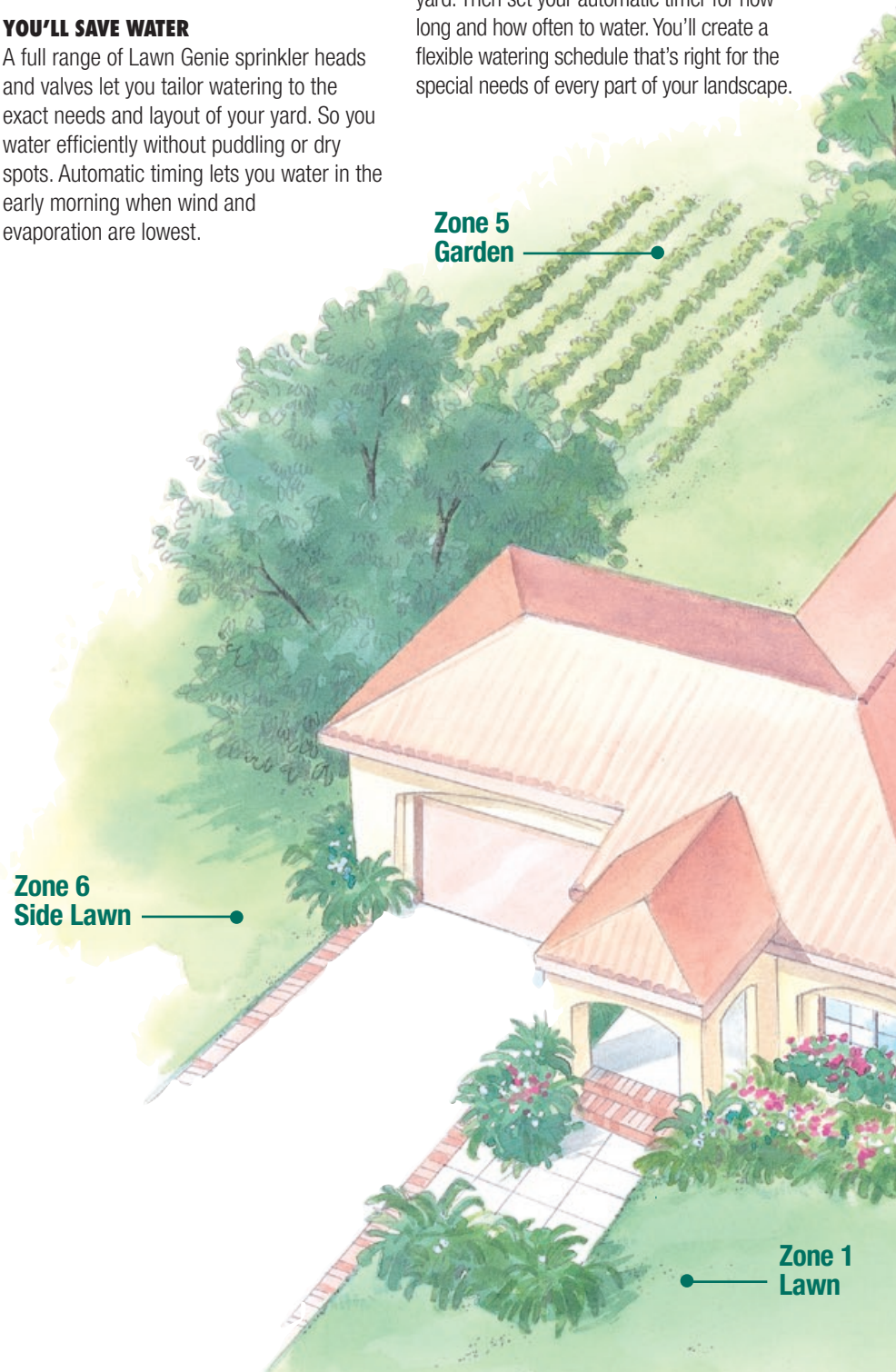
A full range of Lawn Genie sprinkler heads and valves let you tailor watering to the exact needs and layout of your yard. So you water efficiently without puddling or dry spots. Automatic timing lets you water in the early morning when wind and evaporation are lowest.

YOU'LL IMPROVE YOUR HOME'S VALUE

An automatic sprinkler system can add thousands of dollars to the value of your property. It's a valuable labor saving feature in any home. And by helping keep your lawn and garden greener and healthier, it protects your landscaping investments and makes your home more desirable.

YOU'LL WATER PRECISELY WHEN AND WHERE IT'S NEEDED

Use different spray patterns to customize watering to the precise size and shape of your yard. Then set your automatic timer for how long and how often to water. You'll create a flexible watering schedule that's right for the special needs of every part of your landscape.

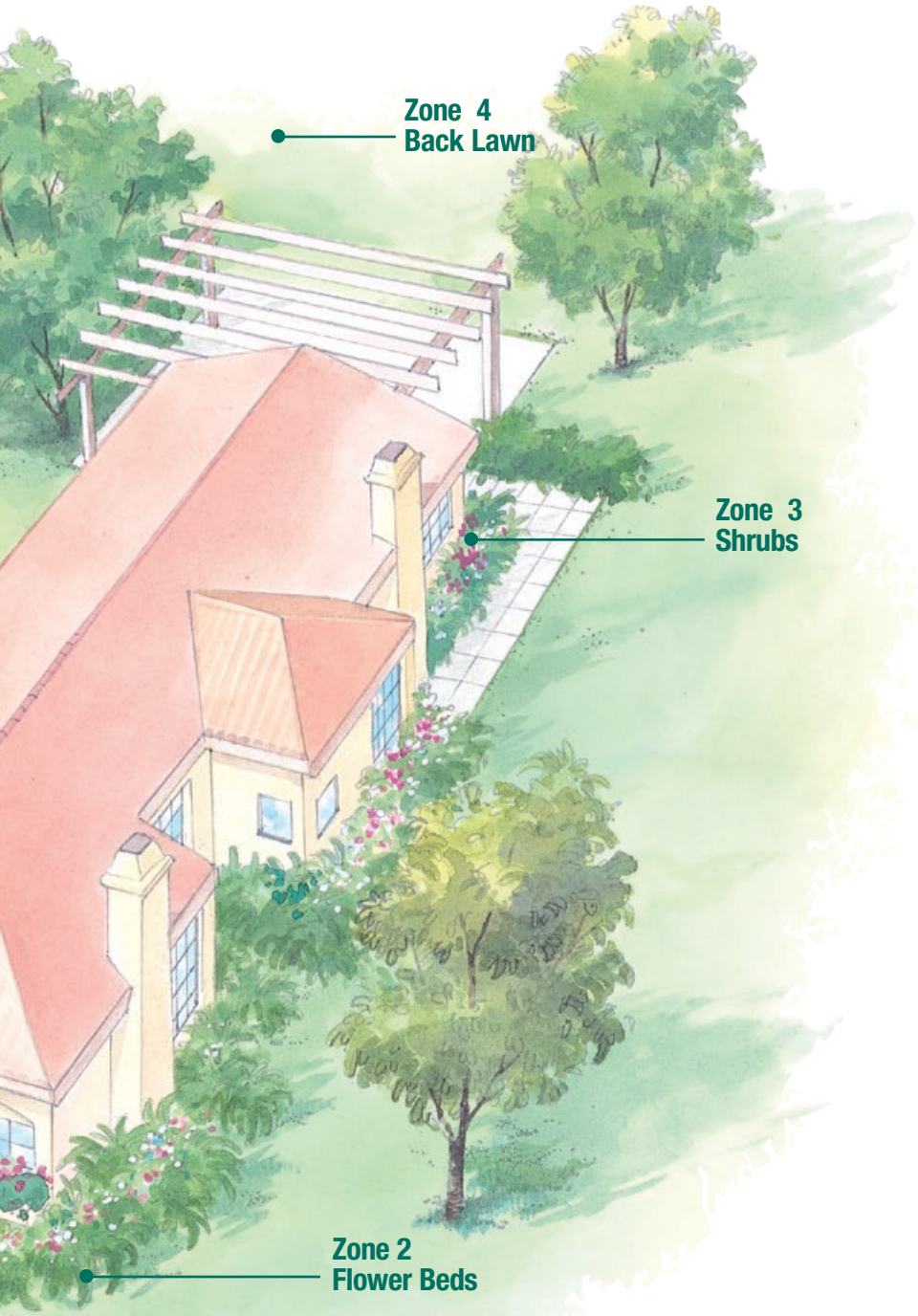


YOU CAN EXPAND YOUR SYSTEM TO MEET YOUR GROWING NEEDS

The modular design of Lawn Genie automatic sprinkler systems makes it easy to add new groups of sprinkler heads when your landscaping changes, without discarding your existing installation. And you can choose a Lawn Genie timer to take care of today's needs, while offering expansion opportunities for tomorrow.

INSTALL IN A FEW EASY STEPS

- Gather the information
- Plan the layout
- Install the system



We're Here to Make it Easy.

Installing your Lawn Genie automatic sprinkler system means following a few simple directions. This guide lays out the steps you'll take. Just follow them one by one to quickly plan and assemble your system. And if you have any questions, call Lawn Genie's toll free hotline (800) 231-5117. Our customer service representatives are always ready to help. Also remember to check local plumbing codes before installation.

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Before You Begin

CHECK LOCAL CODES AND PERMITS.
Call your water company or the proper municipal authority to find out about any building codes or permits required for the installation of underground sprinkler systems. They can tell you about local codes for backflow prevention to protect your household water supply from contamination and advise you on where in the system to locate it.

WARNING

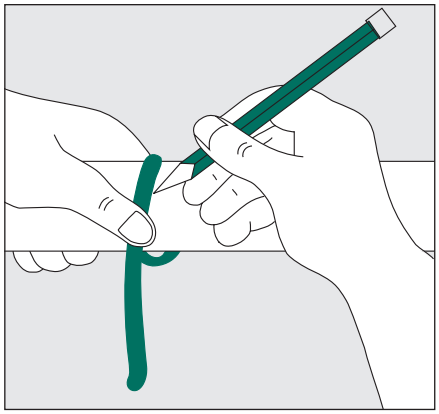
Personal injury may result from trenching over buried power ines or gas lines. Before digging or trenching, check with your local utility companies to identify any buried cables, pipe or gas lines!

WATER CAPACITY DETERMINES THE SIZE OF YOUR SYSTEM.

How many sprinklers your system can run at one time depends on how much water your home can supply. In this section, you'll make a few simple measurements to determine your "water capacity."

DETERMINE YOUR WATER METER SIZE
Water meters are usually 5/8, 3/4 or 1 inch in size. You'll probably find this number stamped on the side of the water meter or printed on your water bill. If not, your local water company can give you the answer. Write your water meter size here_____.

DETERMINE YOUR SERVICE LINE SIZE
Your service line is the pipe that runs from your water meter to your house, or into your house from the basement if the meter is located there. Wrap a string around this pipe and measure the length needed to encircle it.

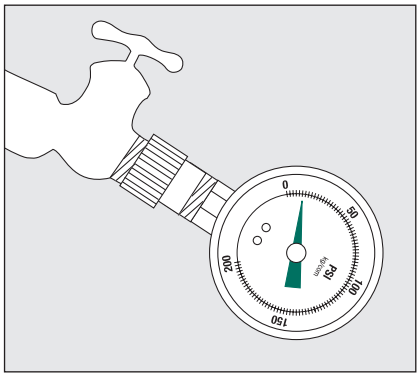


Then look up the diameter of the pipe in the table below. Write your service line size here_____. For maximum water pressure to your sprinkler system, remember to make all pipes from service line to valves as well as the valves themselves, at least this size.

Length of String	27/8"	33/8"	35/8"	43/8"	53/8"
Size of PVC or Galvanized		3/4"		1"	11/4"
Size of Copper	3/4"		1"		

DETERMINE YOUR WATER PRESSURE
For service lines without pressure regulation, your water pressure is measured in pounds per square inch (psi) at an outside faucet near where you'll locate your control valves. A pressure gauge makes it easy to make this reading. Just make sure all water sources both inside and outside the house are turned off. Simply attach the gauge to an outside faucet and open the faucet fully. If your service line has a pressure regulator, or you can't get a gauge, ask your water company for the average water pressure at your meter. Write your water pressure here: _____PSI.

IF YOUR WATER COMES FROM A PUMP
Check with your pump dealer or a pump service company, or refer to your pump owner's manual to determine the pressure (psi) and flow (gpm) of your pump. These figures are determined by your pump type and capacity and the distance that you are lifting the water. Write these figures here: Pressure_____ PSI at _____GPM.



Pressure Gauge

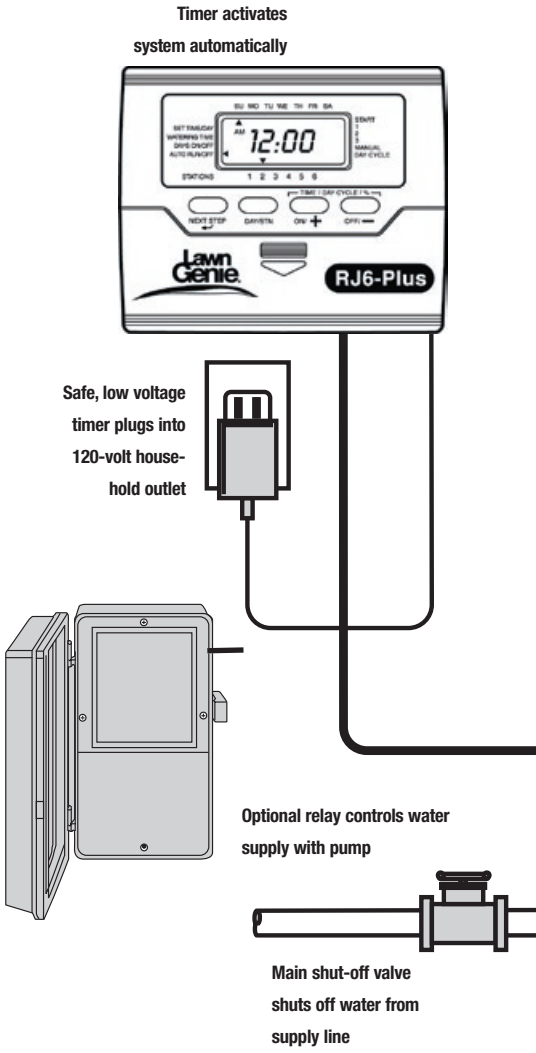
READ YOUR WATER CAPACITY FROM THE CHART

Use the information you've just obtained to find your water capacity on the chart below. For example, a 5/8" meter and 3/4" service line at 55 psi yields a water capacity of 10.0 gallons per minute (gpm). Write your home's water capacity here_____.

Determining Gallons Per Minute

Size Of		Water Pressure (PSI)							
Water Meter	Service Line	30	35	40	45	50	55	60	65
		Gallons Per Minute (GPM)							
5/8"	1/2"	2.0	3.5	5.0	6.0	6.5	7.0	7.5	8.0
5/8"	3/4"	3.5	5.0	7.0	8.5	9.5	10.0	11.0	11.5
3/4"	3/4"	5.0	7.0	8.0	9.0	11.0	12.0	14.0	15.0
3/4"	1"	7.5	10.0	11.5	13.5	15.0	16.0	17.5	18.5
1"	3/4"	6.0	7.5	9.0	10.0	12.0	13.0	15.0	16.0
1"	1"	9.0	12.0	13.5	17.0	19.0	20.0	21.0	21.0

NOTE:
- *For water pressures greater than 70 psi, use 65 psi figures.*
- *If pressure exceeds 80 psi, install pressure regulator.*
- *If your service is galvanized steel, use 65% of the gpm figures shown.*



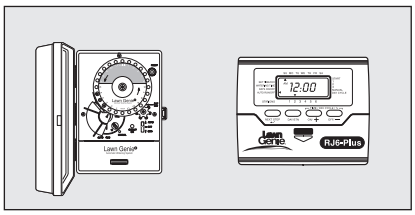
The Components You'll Use

THESE ARE THE PARTS THAT MAKE UP YOUR SYSTEM

All Lawn Genie automatic home watering systems use pipe, valves, sprinkler heads and an automatic timer. This overview explains the role that these components play in your complete system.

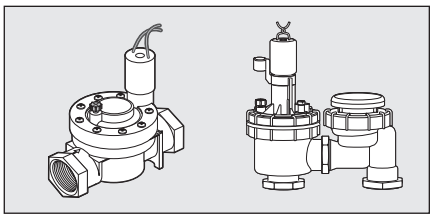
TIMERS

A timer tells your system's automatic valves on which days to water, how long to run, and when to start. Various models offer programming options that let you customize day schedules, run times and start times, to the unique needs of different parts of your yard.



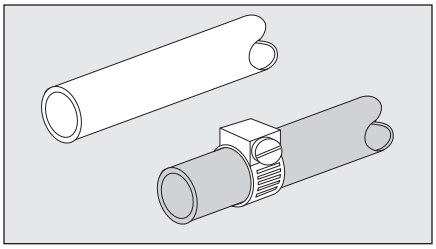
VALVES

A valve supplies water to sprinkler heads along a dedicated section of pipe. Electrically controlled by your Lawn Genie timer, each valve turns off and on to deliver precisely the right amount of water to a specific area of your yard.



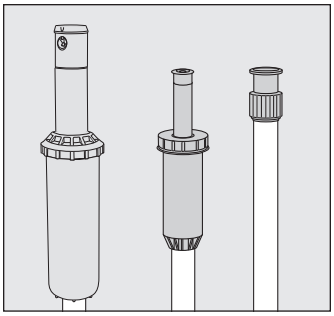
PIPING

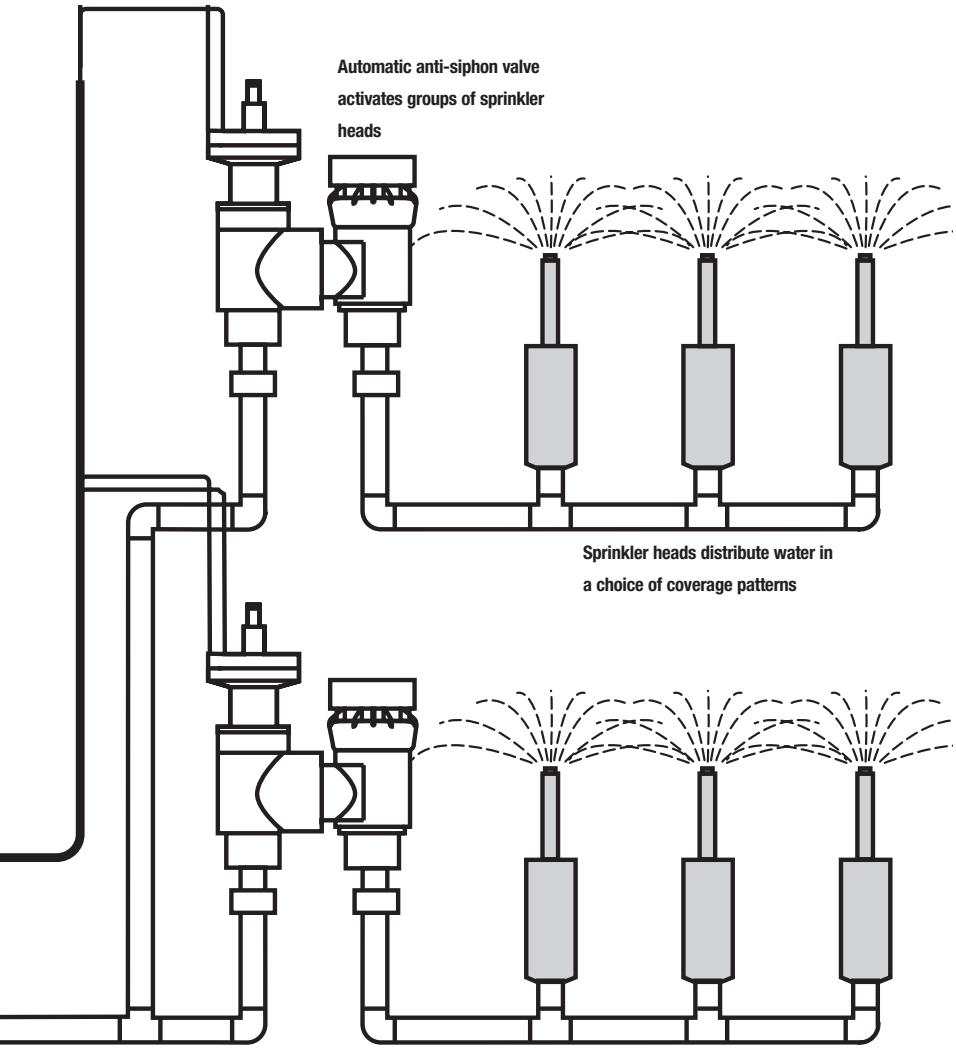
PVC pipe connects your service line with your valves. Either PVC or poly pipe may be used between the valves and sprinkler heads if local codes permit. Check your local codes for correct usage of poly pipe.



SPRINKLER HEADS

You may select from a complete line of sprinkler heads including pop-ups, rotors, and shrub heads to provide the right amount of water in the right pattern for your specific areas. You conserve water and grow a healthier yard by designing a system that delivers just the right amount of moisture, precisely where you need it.





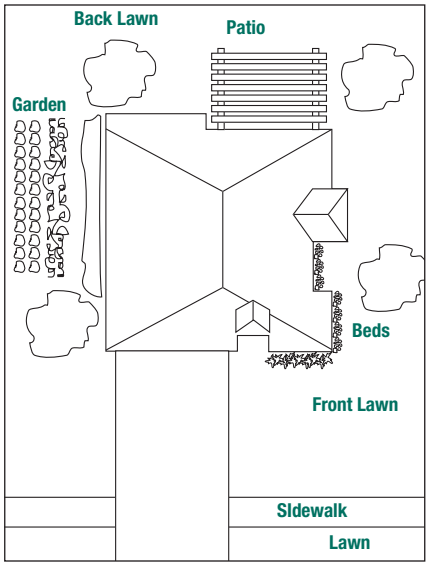
Planning Your Installation

DELIVERING WATER WHERE ITS NEEDED

The first step in laying out your system is to decide which areas you want to water, and the kind of spray patterns these areas require. You'll choose sprinkler heads appropriate for the size and shape of the area, and arrange the sprinkler heads so that their spray patterns overlap for uniform coverage.

PLOT THE LOCATIONS OF AREAS TO WATER

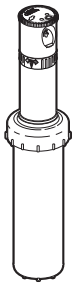
Using the grid on pages 12-13 of this guide, plot the outlines of your home and garden areas. Include walks, driveways and patios. Use a tape measure for accuracy, and make sure all the areas match the scale of the grid. Divide up lawn areas into large squares and rectangles to make it easier to group sprinkler heads. And label each area according to type of foliage (e.g. lawn, shrubs, flower bed, etc.)



CHOOSE THE RIGHT TYPES OF HEADS

Refer to the information and selection chart on the opposite page. For each type of foliage you've identified, you'll note that there is a specific type of sprinkler head recommended, with various coverage patterns to choose from. The different kinds of sprinkler heads ensure that each kind of foliage is watered in the most appropriate manner.

ROTOR

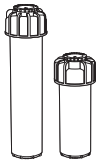


The Lawn Genie CCR-Plus, Closed Case Rotor offers full and part-circle operation in a single unit and is perfect for large lawn areas, 15' - 50'. The rotor's closed-case design provides quiet operation and less sprinkler maintenance because dirt and debris are unable to reach the inside of the sprinkler.

IMPACTS

Lawn Genie All-purpose Impacts are adjustable from 0˚-360˚ for full or part circle water patterns. Available in a pop-up or riser variety, All-Purpose Impacts are a great choice for large lawn areas and well water or water containing sediment.

POP-UPS



LawnGenie pop-up sprinklers provide even water distribution and a low spray angle which minimizes evaporation and wind drift. Using a screwdriver, the radius can be adjusted and the spray pattern can be fine tuned in precise increments after installation. See opposite page for radius and spray pattern information. Pop-ups come in a choice of strip patterns or adjustable heads. They feature a heavy-duty stainless steel retraction spring for positive retraction, a removable filter screen for easy cleaning, and an exclusive wiper seal that blocks damaging grit that can cause leaking and unreliable pop-up action.

SHRUB HEADS

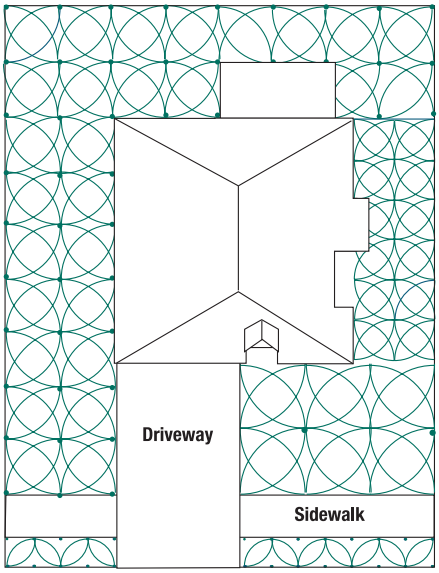
Shrub heads are designed to be mounted on 1/2" risers for use in shrub and ground cover areas. Our shrub heads utilize the same nozzle design as Lawn Genie Pop-Ups to conserve water and ensure uniform performance. Our shrub head models are available with the same adjustability as Lawn Genie Pop-Ups.

POSITION THE HEADS FOR UNIFORM COVERAGE

Properly positioning your sprinkler heads is very important for correct watering. Referring to the maximum spacing guidelines in the selection chart, begin to sketch in the sprinkler locations on your grid. Start with the largest area first, and complete one area at a time. Use a compass to help draw circle and part circle patterns. You may need to adjust spacing to achieve the most uniform coverage; use the suggested distances in the chart on page 7 as a place to start. Spacing should be no further apart than 50% of the diameter of the sprinkler throw (i.e. head-to-head spacing: throw from one sprinkler hits the sprinkler on either side of it).

Begin by placing 1/4 circle adjusted sprinklers in the corners of the lawn areas. Overlap coverage as shown by adding 1/2 circle adjusted sprinklers along the sides, and then if needed, full circle heads in the center. Use rectangular-pattern heads to water narrow strips.

Finally, add sufficient shrubbery spray heads to soak flower beds, planters and shrub areas.



The different PSI ranges listed on these charts are based upon the *Working* pressure of the sprinkler heads. This is not the same as the *Static* Water Pressure which you measured when you determined your water pressure on page 4. The normal operating pressure range is highlighted on the charts for your use.

Impact Rotors

For Medium-to-Large Areas, 15' to 50'

Pattern	Model Number	PSI	Nozzle	Radius or Throw	Flow GPM
Fully Adjustable 20 to 360	54101 (All-purpose Impact Pop-up)	30		35'	2.9
		40	NA	39'	3.6
		50		41'	4.0
Fully Adjustable 20 to 360	54102 (All-purpose Impact Riser)	30		39'	3.8
		40	NA	40'	4.4
		50		41'	5.0

Strip Pattern Nozzles

Pattern	Models	PSI	Radius Throw	Flow GPM
Center Strip	54028	20	3' x 28'	1.10
		30	4' x 30'	1.21
		40	5' x 32'	1.35
End Strip	54029	20	3' x 14'	0.52
		30	4' x 15'	0.61
		40	5' x 17'	0.70
Side Strip	54033	20	3' x 28'	1.10
		30	4' x 30'	1.21
		40	5' x 32'	1.35

Rotor

For Medium-to-Large Areas, 15' to 50'

Pattern	Model Number	PSI	Nozzle	Radius or Throw	Flow GPM
Fully adjustable from 30 to 360 degrees	54058 (CCR-Plus)	30	1*	33'	1.0
			2	35'	1.4
			3*	38'	1.9
			4	38'	2.7
			5*	41'	3.8
			6	41'	5.5
		40	1*	34'	1.1
			2	36'	1.6
			3*	39'	2.2
			4	40'	3.1
			5*	43'	4.5
			6	44'	6.5
		50	1*	35'	1.3
			2	37'	1.8
			3*	40'	2.5
			4	41'	3.5
			5*	45'	5.0
			6	46'	7.2
		60	1*	36'	1.4
			2	38'	2.0
			3*	41'	2.7
			4	41'	3.9
			5*	46'	5.5
			6	48'	8.0

*Low Flow Nozzles

All Purpose Series Sprinklers and Shrub Heads

2" & 4" Adjustable Arc (0-360 degrees)

Radius	8' Shrub - 54088 2" – 54074 4" - 54078	10' Shrub - 54087 2" – 54050 4" - 54054	12' Shrub - 54086 2" – 54051 4" - 54055	15' Shrub - 54085 2" – 54052 4" - 54056	17' Shrub - 54084 2" – 54053 4" - 54057
Pattern	GPM @ 30 PSI	GPM @ 30 PSI	GPM @ 30 PSI	GPM @ 30 PSI	GPM @ 30 PSI
Quarter	0.7	0.8	0.9	1.3	1.3
Half	1.2	1.4	1.6	2.3	2.4
Three-Quarter	1.8	1.9	2.2	3.2	3.2
Full	2.3	2.2	2.8	3.8	3.7

Match the shape and size of your yard with these patterns

Full Circle - 360° | Half Circle - 180° | Quarter Circle - 90° | Adjustable 0 -360°

Center Strip | Side Strip | End Strip

Adding Valves to Your System

DIVIDE YOUR SPRINKLER HEADS INTO ZONES

Now it's time to divide your sprinkler heads into groups, or Zones. A Zone is simply a group of sprinkler heads connected together with pipe controlled by a single valve. Each valve is electrically controlled by the timer and automatically turns on and off to deliver precisely the right amount of water to the sprinkler heads it controls. The basic idea is to group together areas of your yard that have the same watering needs, so the sprinkler heads supplying each area will water on the same schedule. This lets you tailor watering needs to the different areas of your yard.

DON'T MIX ROTORS, POP-UPS, OR SHRUB HEADS IN THE SAME ZONE.

Each type of sprinkler applies water at a different rate. For economical and efficient watering, the same type of head must be used throughout a zone.

USE SEPARATE ZONES FOR SUN AND SHADE

Group sprinklers in sunny and shady areas separately, so that you can tailor your watering schedule to give each area the water it requires.

ADD UP THE GPM FOR EACH ZONE

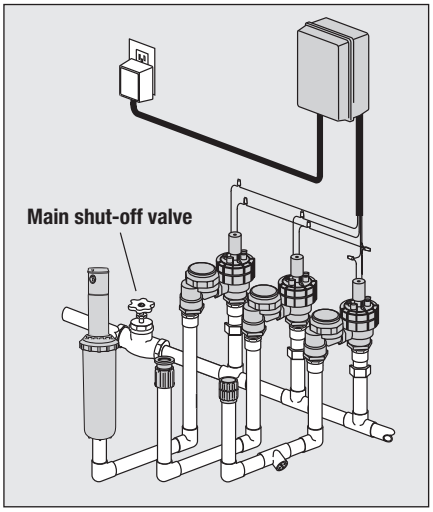
Referring to the chart on page 7, write the gpm (gallons per minute) requirement next to each sprinkler head on your layout. When you group the heads into Zones, add up the gpm figures for all the heads in each Zone.

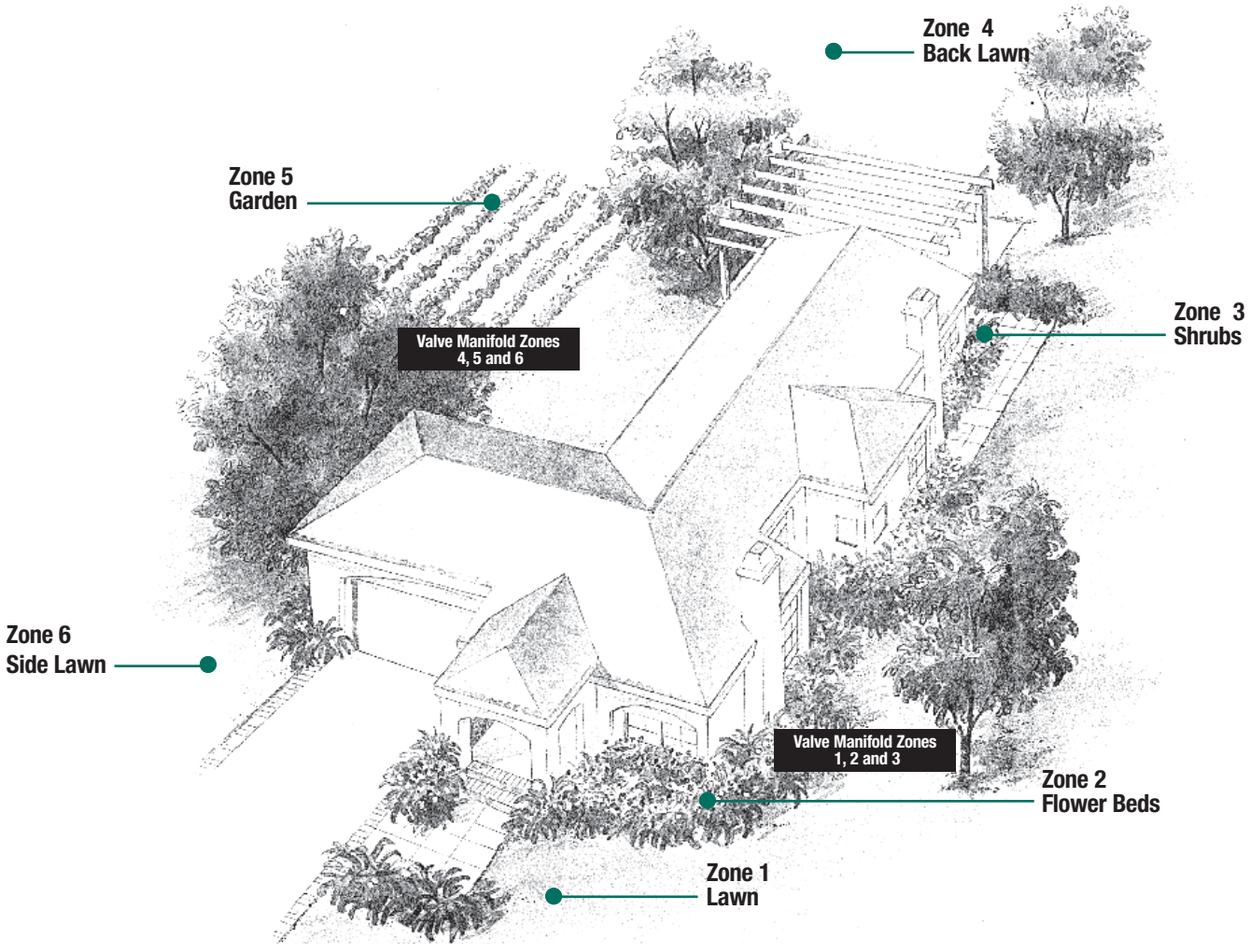
MAKE SURE GPM IS LESS THAN WATER CAPACITY

Compare the total gpm for all heads in each Zone with the water capacity you determined on page 4. The total for each Zone must be less than your home's water capacity for proper operation.

GROUP VALVES INTO MANIFOLDS

You'll use one control valve for each Zone. For convenience, it helps to locate these valves together in a grouping called a manifold. Choose an accessible spot away from heavy foot traffic, and as close as possible to your service line. You may want to locate one manifold in your front yard and one in back.

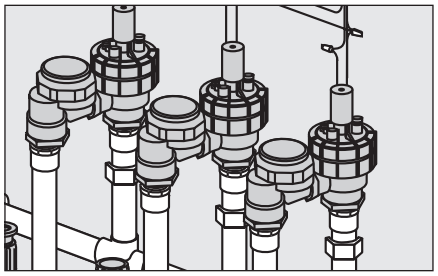




SELECT THE RIGHT VALVE FOR YOUR SYSTEM

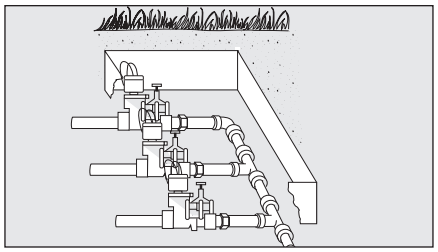
Valves come in three basic types. All valves turn groups of sprinkler heads on and off in response to either electrical signals from your timer or manual operation. The type of valves you use depends on local codes and the source of your water supply.

1. ANTI-SIPHON VALVES



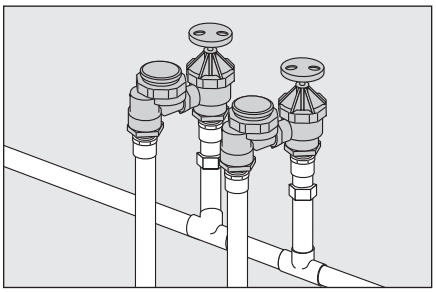
These valves have a built-in backflow prevention device to prevent sprinkler water from flowing back into your home water supply and possibly contaminating it. Anti-siphon valves should be installed 6" to 12" above the highest head, or according to local codes.

2. IN-LINE VALVES



These valves are primarily used with wells, or where codes require a separate backflow-prevention device. They're usually installed below ground and protected by a valve box.

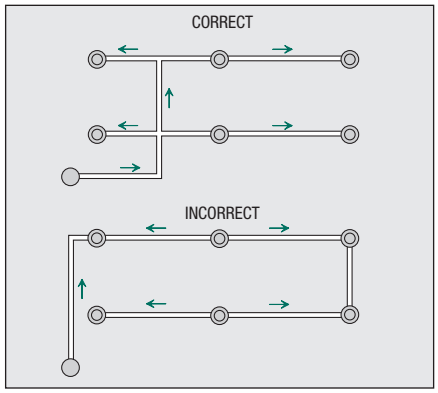
3. MANUAL VALVES



Used for systems without an automatic timer, these valves turn on and off with a simple twist of the handle. They can accept an automatic valve adapter if you decide to add a timer later.

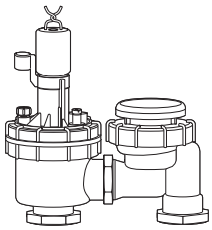
NOW LAY OUT YOUR PIPE

The last step in your system layout is connecting the service line, valves and sprinkler heads with pipe. To minimize pressure loss, use the fewest number of turns. Several branch lines, rather than a longer run with multiple turns, can accomplish this. If your sprinkler layout requires long runs of pipe (over 100') use one pipe size larger than the valves.



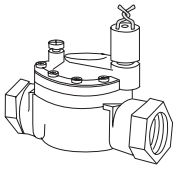
Lawn Genie Valves

ANTI-SIPHON VALVE



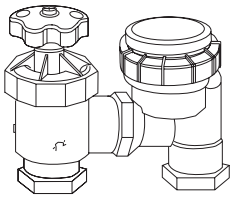
Easy to install, with a built-in backflow-prevention device to protect household water supply from possible contaminants. Precision gear-drive flow control adjusts each zone's flow rate for maximum water efficiency. Bleed screw allows manual ON/OFF operation of your valve. Patented, double-beaded molded diaphragm seals tightly to prevent leaks, and spin-off bonnet simplifies maintenance. Specifically designed for high and low flow rate applications.
Fits 3/4" or 1" pipe.

IN-LINE VALVE



Suitable for use below ground. Flow-through design is especially effective for well or unfiltered water supplies — flushes dirt particles through, so valve doesn't stick open. Bleed screw allows manual operation, and double-beaded diaphragm ensures long life and low maintenance.
Fits 3/4" or 1" pipe.

MANUAL ANTI-SIPHON VALVE



Rugged, corrosion-resistant design protects household water against backflow contamination in systems without an automatic timer. Convenient handle turns water on and off with a twist. Code approved. Fits 3/4" or 1" pipe.

FLOW CONTROL

Both the Lawn Genie Anti-siphon and In-line Valves contain a flow-control feature. Flow control is perfect for "fine-tuning" your sprinkler performance. It is common to experience misting or fogging if the flow to your sprinklers heads is too high causing water waste. The flow control feature allows you to adjust the flow through the valves to the heads to ensure proper coverage and reduce water waste.

Choosing an Automatic Timer

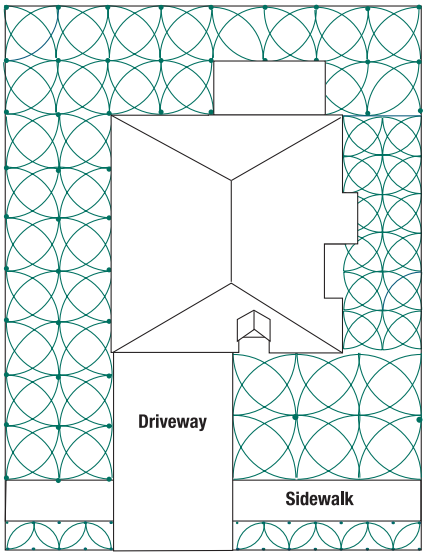
SELECT THE RIGHT FEATURES FOR YOUR YARD

The sprinkler timer is the brain of your automated watering system. It lets you automatically supply different parts of your lawn and garden with precisely the water they require, exactly when they require it. While all Lawn Genie timers perform this function, different models offer features that expand your range of control.

ZONE OPTIONS

Lawns, shrubs, flower beds and other foliage often need different amounts of water. You can tailor the water delivered to different parts of your yard by assigning a different watering run time to the sprinkler heads controlled by a single valve. You've already learned that a valve and the sprinklers it controls are called a zone. Lawn Genie timers let you divide your yard into as many as four or six zones, depending on the model.

The greater the variety of foliage in your yard, or the possibility you'll expand your system later, the more zones your timer should have.



DAY SCHEDULES

Some timers let you water at specific intervals, such as every 3rd or 4th day. Others give you the added flexibility of watering on specific days such as Monday, Wednesday and Sunday of every week.

PROGRAM OPTIONS

If your yard has a variety of foliage or sunny and shady areas, you may want different groups of zones to water on different combinations of days. That's why Lawn Genie offers timers in single, dual and multiple-program models. See the sample programs below.

SINGLE PROGRAM TIMER

A single program waters all zones on the same days. This type of timer is appropriate for basic lawn watering. (We recommend the Lawn Genie Mechanical Timers L50104P or L50106P.

DUAL PROGRAM TIMER

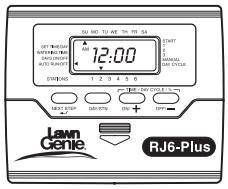
Dual programs can water certain zones on one set of days and other zones on another set of days. This lets you meet the different watering needs for your lawn and garden, or front and back yard. (We recommend the Lawn Genie 54059 or 54060.)

	ZONE	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	RUNNING TIME
GROUND COVER	1								15 MIN
FRONT LAWN	2								15 MIN
BACK LAWN	3								15 MIN
SIDE LAWN	4								5 MIN
FLOWER BEDS	5								15 MIN
SHRUBS	6								30 MIN

	ZONE	SUN/DAY 1	MON/DAY 2	TUE/DAY 3	WED/DAY 4	THU/DAY 5	FRI/DAY 6	SAT/DAY 7	RUNNING TIME
GROUND COVER	1								15 MIN
FRONT LAWN	2								15 MIN
	3								15 MIN
	4								5 MIN
FLOWER BEDS	5								15 MIN
SHRUBS	6								30 MIN

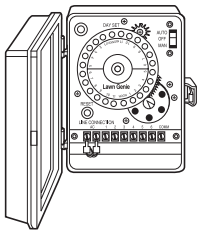
Program A-Day Interval

Program B-Day of Week



Model 54060, 54059

- Dual Programs
- 6 Zones (4 on 54059)
- Easy push-button programming
- Specific Day & Day-Interval Schedules



Model L50104P, L50106P

- Single Program
- 4 Zones (6 on L50106P)
- Alarm clock style programming
- Specific Day & Day-Interval Schedules

Lawn Genie

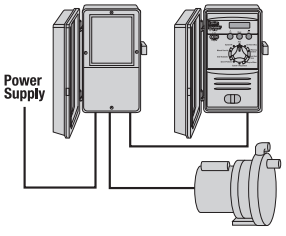
TIMER FEATURES AT-A-GLANCE

TIMERS				
FEATURES	**ELECTRONIC**		**ELECTRO-MECHANICAL**	
MODEL	**54060**	**54059**	**L50104P**	**L50106P**
Number of Zones	6	4	4	6
Multiple Programs	No		No	
Dual Program	Yes		No	
Single Program	No		Yes	
Watering Run Time	9 hrs. and 59 min.		5-30 min.	5-45 min.
Day-of-week Schedule	Yes		Yes	
Day Interval Schedule	Yes		Yes	
Variable Time Each Zone	Yes		Yes	
Rain Shut-Off	Yes		Yes	
Rain Sensor Capability	No		No	
Manual or Auto Start	Yes		Yes	
Master Valve Circuit For Pump Start	Yes		Yes	
Number of Start Times Per Program	3		5	
Battery Backup	Yes		No	
Electronic Circuit Breaker	No		No	
Fuse	No		No	
Failsafe Program	Yes		No	

All indoor Lawn Genie Timers feature plug in transformer and safe low-voltage design.

PUMP START RELAYS

If your water supply requires a pump, you'll need to include an automatic pump start relay in your system. Most Lawn Genie sprinkler timers are equipped to activate this relay to permit fully automatic watering (see chart above). For installation tips see page 18.



Your Sprinkler System Plan

SKETCHING YOUR LAYOUT

- Carefully measure your yard, then use a pencil to sketch each area, using the grid scale of one small square per square foot, and one large square per 10 square feet.
- Make sure you show the outlines of buildings, patio, sidewalk, driveway, concrete slabs, etc.
- Mark locations of all lawn areas, trees, shrubs, ground cover and garden beds.
- Divide lawn areas into large rectangles to help group sprinkler heads.
- Note the locations of your water meter and service line.
- If your service uses a pump, mark the locations of the pump and well.
- Plot sprinkler head locations and note gallons-per-minute requirement for each.
- Group sprinkler heads into zones, using a different colored pencil for each zone.
- Finally, sketch the layout of pipes and valves, as described in the preceding pages of this guide.

Use the parts list on page 14 to keep track of the components and accessories you'll need.

YOU MAY ALSO NEED:

- PVC cutter
- Hammer
- String
- Shovel
- Screwdriver
- Wooden Stakes
- Pipe Plugs
- Pipe Wrench
- PVC solvent cement, primer and rags
- 1" pipe clamps if using poly piping
- Electrical Tape
- Pliers
- Tape Measure
- Line marking paint (for marking trenches)

Mail-In Questionnaire

IMPORTANT: IF YOU WOULD LIKE TO USE OUR COMPUTER DESIGN SERVICE, PLEASE PRINT ALL INFORMATION AND FILL OUT COMPLETELY. THEN MAIL OR FAX TO US AT THE ADDRESS PROVIDED BELOW.

1. Scale of drawing
   _____ inch = _____ feet

2. Water meter size ☐ 5/8 inch ☐ 3/4 inch ☐ 1 inch

3. Water supply line type ☐ Copper ☐ Galvanized ☐ PVC

4. Water supply line size ☐ 3/4 inch ☐ 1 inch ☐ 1-1/4 inches

5. Static water pressure _____ PSI
   Gallons per minute: at 40 PSI _____ at 45 PSI _____ at 50 PSI _____

6. Pump Information
   If you use a pump, it is recommended that it produce a minimum of 45 PSI @ 10 GPM for a sprinkler system. If your pump is not adequate, call for advice or write "Will purchase a new pump" on your design. We will design your system using the pump output recommended for your property.

7. Soil information:
   ☐ Sandy ☐ Loam ☐ Clay

8. Install Timer:
   ☐ Indoors ☐ Outdoors

9. Irrigation Water:
   ☐ Clean ☐ Containing Sediment

Your Name _____

Address _____

_____

City _____

State _____ Zip Code _____

Phone Number (Day) ( ) _____

Phone Number (Eve) ( ) _____

Email _____

Store Name _____

Store # _____

Store Contact _____

Address _____

_____

City _____

Phone ( ) _____

REMINDER: IS YOUR PROPERTY PLOT PLAN COMPLETE AND TO SCALE? DOUBLE-CHECK ALL INFORMATION FOR ACCURACY.

Mail this completed questionnaire plus your plot plan to:

Lawn Genie Design Center
5825 Jasmine Street
Riverside, CA 92504

Or fax to: (800) 504-4978

Note: If you are faxing, be sure to fax both your property plan and your completed questionnaire.

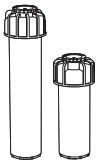
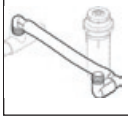
WEB

QUESTIONS? CALL (800) 231-5117
or visit our web site at www.lawngenie.com

Lawn Genie Sprinkler System Property Layout

Your Name_____ **Scale:** _____ inch = _____ feet

List the Parts You'll Use

	DESCRIPTION	MODEL NO.		QTY.
	Dual Program Electronic Timer	54059	4 Zone	
		54060	6 Zone	
	Single Program Mechanical Timer	L50104P	4 Zone	
		L50106P	6 Zone	
	Anti-Siphon Valve	L7034	3/4"	
		L7010	1"	
	In-Line Valve	54005	3/4"	
		54004	1"	
	Valve W/ Flow Control	54002		
	Manual Anti-Siphon Valve	L4034	3/4"	
		L4010	1"	
	Valve Adapter for Plastic Valves	L2034	3/4"	
		L2010	1"	
	Valve Adapter for Brass Valves	L1034	3/4"	
		L1010	1"	
	Multi-Strand Conductor Wire 2 thru 8			
	CCR-Plus Rotor	54058		
	Impact Pop-up Rotor	54101		
	Impact Riser Rotor	54102		
	Pop-Up	2"	4"	
	8'	54074	54078	
	10'	54050	54054	
	12'	54051	54055	
	15'	54052	54056	
	17'	54053	54057	
	Shrub Head			
	8'	54088		
	10'	54087		
	12'	54086		
	15'	54085		
	17'	54084		
	Specialty Nozzles			
	Center Strip	54028		
	End Strip	54029		
	Side Strip	54033		
	Sprinkler Flex Assemblies			
	1/2" Flex Assembly	54103		
	3/4" Flex Assembly	54104		

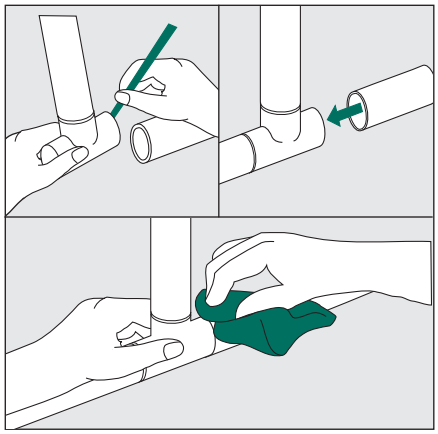
	DESCRIPTION	SIZE	QTY.
	Schedule 80 Nipple	1/2" x 12"	
	Threaded Risers Schedule 40 and 80 (also for connecting anti-siphon valves to supply line	1/2" x 1/2"	
		3/4" x 3/4"	
		1" x 1"	
	Standard 3/4" or 1" Gate Valve (or Ball valve)	3/4"	
		1"	
	Compression Tee	Slip Type 3/4"	
		Threaded 1"	
	PVC Pipe (Check local codes for required pressure rating)	1/2"	
		3/4"	
		1"	
		1 1/4"	
	Union	3/4"	
		1"	
PVC PIPE FITTINGS			
	Street Ell (For connecting anti-siphon valves to sprinkler pipeline)	3/4" male threaded x 3/4" female socket	
	Socket Coupling (for coupling two pieces of PVC pipe)	3/4" to 3/4"	
		1" to 1"	
		1 1/4" to 1 1/4"	
	Reducer Bushing (for reducing outlet size of fitting)	1" to 3/4"	
		3/4" to 1/2"	
	Slip Tee (to couple same size PVC pipe at 90° degrees) from main line	3/4" x 3/4" x 3/4"	
		1" x 1" x 1"	
		1 1/4" x 1 1/4" x 1 1/4"	
	Reducer Tee (Socket x Socket x Thread) For attaching a threaded riser between sprinkler and PVC pipe	3/4"S x 3/4"S x 1/2"T	
		1"S x 1"S x 1/2"T	
		1 1/4"S x 1 1/4"S x 1/2"T	
		3/4"S x 3/4"S x 3/4"T	
		1"S x 1"S x 3/4"T	
		1 1/4"S x 1 1/4"S x 3/4"T	
	Slip Elbow To form 90° angle with same size PVC pipe	3/4" to 3/4"	
		1" to 1"	
		1 1/4" to 1 1/4"	
	Reducer Elbow PVC To form 90° angle and provide threads for riser	3/4"S to 3/4"T	
		3/4"S to 1/2"T	
		1"S to 1/2"T	
	Male Threaded Adapter For adapting a threaded outlet to a socket joint for a PVC pipe	1 1/2"T to 1 1/2"S	
		1"T to 1"S	
		3/4"T to 3/4"S	
		1" T to 1/2"S	
		3/4"T to 1/2"S	
	Drip Starter Kit	54100	

Assembling Pipe

You'll begin the actual installation of your sprinkler system by running pipe to match the layout you sketched earlier. A few helpful hints will make positioning and joining pipe as easy as possible.

TIPS FOR PVC PIPE

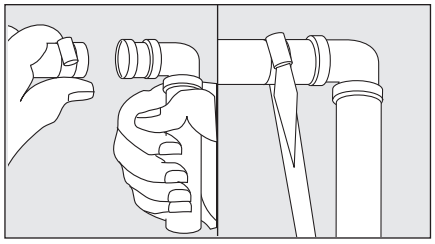
Cut pipe with a PVC pipe cutter. Use primer to clean area that will be cemented. Brush glue freely around the outside end of the pipe and to inside of the fitting. Slip the pipe into the fitting, then twist it a quarter turn to evenly distribute the solvent for a leakproof bond. Hold for about 15 seconds until pipe is set, then wipe excess glue from around the joint.



TIPS FOR POLY PIPE

Poly pipe should only be used between valves and sprinkler heads since it can't withstand the surge pressure between your service lines and valves. Cut poly pipe with pipe cutters. Slip a stainless steel hose clamp over the pipe and insert the barrel fitting. Then position the clamp over the area of pipe surrounding the barbed part of the fitting, and tighten carefully.

Make sure all clamps are tightened snugly on poly pipe.

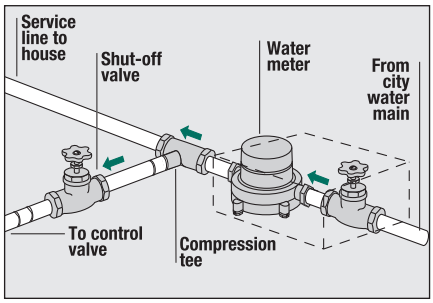


TAP INTO YOUR SERVICE LINE

Turn off your main water supply at the water meter. Cut into the service line as near as possible to where you'll position your control valves, and remove about 3" of the service line pipe. Insert a compression tee as shown, then tighten the nuts to seal against leaking.

INSTALLING A SHUT-OFF VALVE

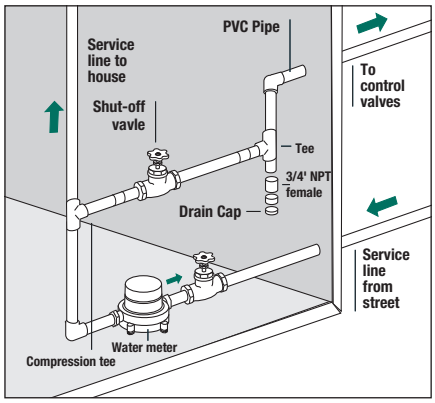
Finally, install a shut-off gate or ball valve so you can turn off your entire sprinkler system if necessary. Run a pipe from the compression tee to the shut-off valve, then lay another length of pipe from the shut-off valve to the location of your valves.



A shut-off valve lets you turn off water to your sprinkler system without affecting your household water supply.

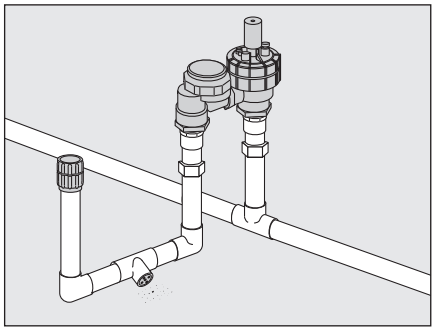
IF THE METER IS IN THE BASEMENT

Shut off your water supply at the meter and insert a compression tee as described previously. Drill a 1" hole through the sill above the foundation, or drill or chisel a hole through the basement wall. (Be sure to wear eye protection.) Install the pipe as shown below, including the shut-off valve and drain cap. In freezing areas, pipe should slope downward from the control valves to the basement entrance, and a drain cap should be installed in a low position. Seal the hole in your wall with caulking compound. Drain water from your system by closing the shut-off valve and removing the drain cap, using a bucket to catch the flow.



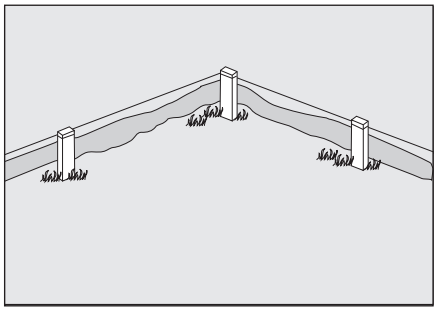
IN FREEZING AREAS

If freezing temperatures occur in your area, install automatic drain valves at the low points in the pipe run from each control valve, and between the control valve manifold and the shut-off valve. Use a reducer tee, and slope the automatic drain valve downward at a 45° angle into a bed of gravel to provide drainage. When your sprinkler system shuts off, the automatic drain valve opens to release any water standing in the pipes.



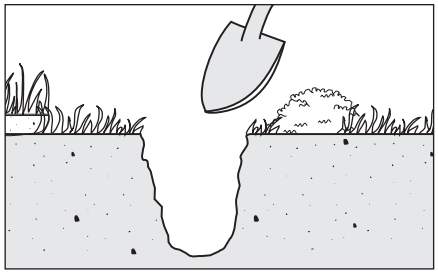
LAYING OUT YOUR SYSTEM

Use wooden stakes or sprinkler marking flags to mark the location of each sprinkler head and valve. Check the layout you sketched to make sure you've positioned everything accurately before you begin cutting pipe.



DIGGING TRENCHES BY HAND

Before digging, make sure to check with your local underground locator service to be certain that there are no buried lines where you'll be digging. To soften your soil, water the ground about two days before you plan to trench your yard. Use a straight-edge spade to dig "V" shaped 6" deep trenches (up to 10" in freezing climates). The depth of your trenches depends on the size of the heads you are installing as well as on the number of pipes in each trench. Place sod on one side of the trench and dirt on the other, so you can put everything back the way it was.

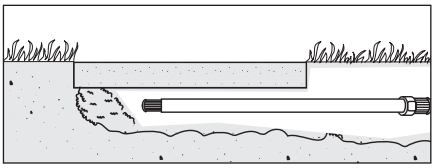


USING A TRENCHER

Renting an automatic trencher can make your job easier. Check your local lawn-supply store or equipment-rental company. The renter can show you how to safely operate the machine. Don't use it to dig trenches through flower beds or ground cover, or operate it near buildings or on steep slopes.

GOING UNDER OBSTACLES

Attach your hose to a length of pipe with a hose-pipe adapter. Place the end of the pipe where you want it to tunnel, for example under a concrete sidewalk, then turn on the water.



Push the pipe under the obstacle as the water pressure cuts a channel. Be careful to avoid damaging walls and driveways by washing away too much soil.

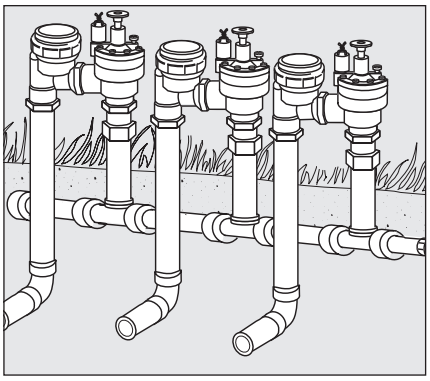
Connecting Valves

LAY THE MAIN LINE

If you haven't already done so, cut a length of pipe to run from the shut-off valve to the location of your first set of control valves. If you're planning a second set of control valves in another direction, link them to the first set with another length of pipe.

PLACE YOUR VALVES

Lay out the valves, risers (vertical pipe segments) and tees on the ground the way that they will fit together as a manifold. To prevent backflow, make sure anti-siphon valves are at least 6" above the highest sprinkler head (or higher if required by local codes).

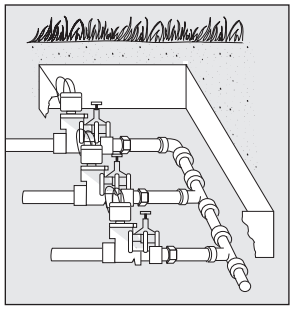


SET UP VALVE MANIFOLD

Apply primer and glue to each joint and fit together as shown in the illustration above. Follow the manufacturer's suggested drying time (typically about 1 hour), then turn off all valves according to the instructions packaged with them. Now turn on the water at your water meter.

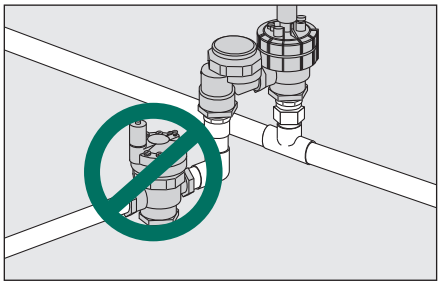
MAKING AN IN-LINE MANIFOLD

If your water supply or local codes require the use of in-line valves, several steps can enhance the durability of your installation. Bury the manifold in the ground above a bed of gravel for better drainage. And for easy access install them in a valve box available from your local retailer. Be sure to install a separate backflow device if running your system off your household water supply. **Never install the backflow device inside your house or basement.**



NEVER INSTALL ANY VALVE DOWNSTREAM OF AN ANTI-SIPHON VALVE

One final note: if you're using anti-siphon valves, make sure that no other valve (manual or electric) is installed between them and your sprinkler heads. This would prevent the built-in backflow prevention from working.

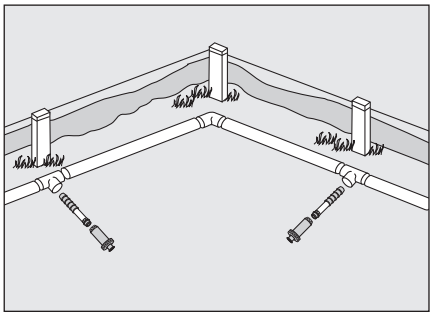


Attaching Sprinkler Heads

PLACE THE HEADS

Now match the various kinds of sprinkler heads you've purchased with the locations you've staked out according to your sketch.

Trenches from the appropriate control valve should be deep enough so that each head will be at the proper height.

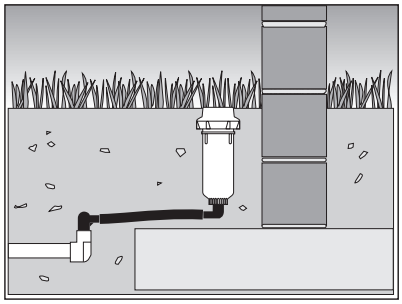


FLUSH THE SYSTEM

Turn on the water at the shut-off valve, and open the valves one at a time using manual bleed screws until water runs clear of all debris. Check the entire system for leaks. Then close the valves, and remove all pipe plugs.

INSTALL FLEX ASSEMBLIES AND POP-UP OR ROTOR HEADS

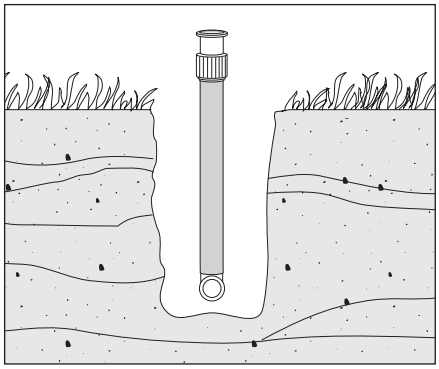
Flex Assemblies easily bend allowing for easy sprinkler positioning and installation. No gluing or cutting is necessary. Using 1/2" or 3/4" Flex Assemblies, connect flex assembly to PVC or Poly Pipe fitting.



Connect the pop-up or rotor sprinklers to the flex assembly. Position sprinkler head so that it is positioned evenly with the soil surface to ensure that the sprinkler will not be damaged during mowing or other yard activities. Stabilize the sprinkler with soil without filling the entire trench. Verify the sprinkler is vertical for optimum performance. Repeat this process for each pop-up or rotor sprinkler.

SHRUB HEADS

Shrub heads should be mounted on risers that lift them several inches above the soil surface. This allows their patterns to reach the maximum radius.



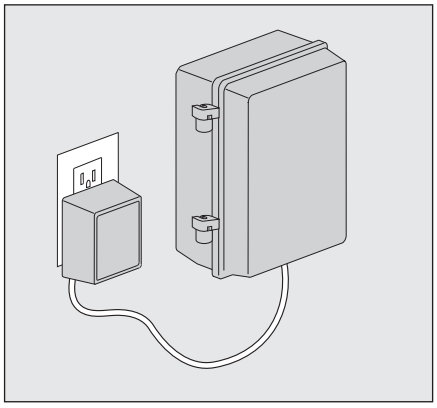
FINE TUNE YOUR PATTERN

Adjust pop-up sprinkler heads so their patterns water precisely the areas you want. Adjust Lawn Genie pop-up spray heads by pulling up the pop-up stem and turning it to the precise direction and pattern desired. The pop-up stem "ratchets" to allow easy, reliable adjustment of the spray direction.

Installing Your Timer

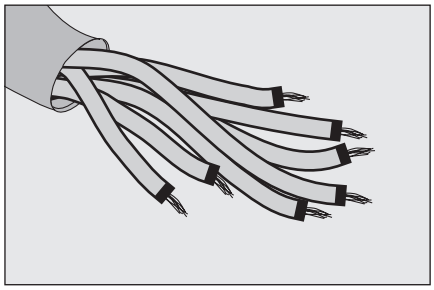
MOUNT THE TIMER

Choose an indoor location near a standard 120-volt electrical outlet. Following the instructions in the timer installation manual, fasten the unit to the wall using the screws provided, and attach the transformer. If an outdoor location is desired, use an outdoor cabinet to protect the timer against the effects of weather.



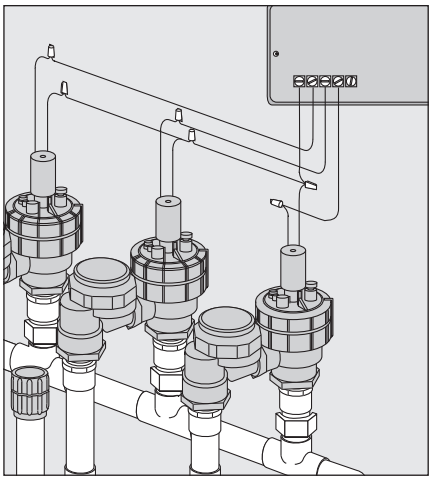
WIRE THE CONTROL VALVES

Run valve wiring underground wherever possible. Your dealer can provide this wire in 5 and 7 wire color-coded strands. Connect a single common (white) wire to one of the wires from each valve. Join all splices with wire nuts, then seal with waterproof connectors.



CONNECT THE VALVES TO YOUR TIMER

Connect the wire from valve number 1 to the terminal screw marked “1” on the timer, the wire from valve number 2 to the terminal “2”, and so on. This allows your timer to selectively water the zone controlled by each valve. Connect the white common wire to the terminal marked “COMM”.



PROGRAM YOUR TIMER

Now consult the owner’s manual that came with your timer. Different timers use different programming techniques. But no matter which timer you choose, it helps to write down your zones and their watering days in the form of a schedule before you start.

CHECK SYSTEM OPERATION

Now you’re ready to test your installation. Open the shut-off valve all the way and test each zone using your timer’s manual control. Adjust the radius and pattern direction of rotors, pop-ups, or shrub sprays to avoid wasting water on walks, driveways and other areas. See Troubleshooting section on page 19 if one or more valves fails to operate. When system is functioning properly, replace soil and sod in trenches.

Additional Tips

SPECIAL CONSIDERATION HANDLING OTHER APPLICATIONS

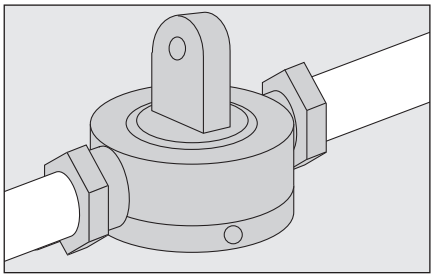
In addition to the standard installations previously described, Lawn Genie automatic sprinkler systems are also suited to certain special situations. Here’s how to handle them, as well as getting the best performance after your system is installed.

WINTERIZING YOUR SYSTEM

In areas where the ground freezes, the system should be drained of all water.

1. Close the system’s water supply valve
   a) If your system has manual drain valves, open those valves to allow lines to drain.
   b) If your system has automatic drain valves, the lines will drain automatically.
2. Open the manual drain valve upstream of your valve manifold to allow the drainage of the automatic sprinkler valves and backflow device.
3. Disassemble each automatic control valve to allow any remaining water to drain. Reassemble the valves.
4. Follow recommended winterizing instructions for your specific sprinkler timer.

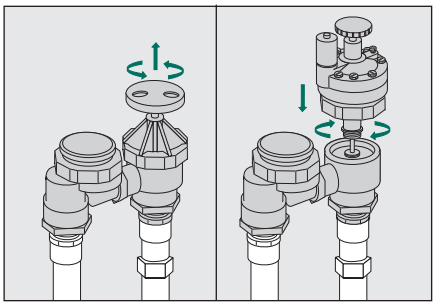
To winterize with compressed air, we recommend that you hire a professional.



CONVERTING A MANUAL SYSTEM TO AUTOMATIC

Adding Lawn Genie automation to your existing manual sprinkler system just takes a timer, 8" crescent wrench or adjustable pliers, and one automatic adapter per zone. Check the side of each of your control valves for its size and manufacturer. This will tell your Lawn Genie retailer which automatic valve adapters you will need.

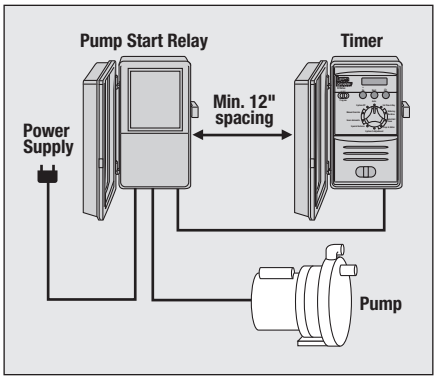
To install, shut off the water supply to your existing manual control-valve manifold. Remove the manual valve stem (not the entire valve body) as shown in the illustration. Then insert the adapter valve in its place. Install the



timer and connect the valve wires. Now all that’s left is to set your watering schedule and turn on the water supply to the control valve manifold.

CONNECTING A PUMP START RELAY FOR A WELL, TANK OR POND

A pump start relay lets you automatically activate a pump if your water supply requires one. The timer must be at least 12 feet from the pump to prevent malfunctions.



See pump start relay manual for installation instructions.

MAINTENANCE

Clean your system periodically by removing sprinkler heads, inspecting for debris, and flushing pipes and risers. In freezing areas, drain all water from the system, blow water from control valves, and close your shut-off valve before the first freeze. Wait until the spring thaw before operating the system again.

OPERATING YOUR SYSTEM

If possible, schedule watering cycles in the early morning, when water pressure is at its highest. This allows ample time for water to soak in while evaporation and wind drift are low. Evening watering can leave foliage damp for too long, leading to mildew under some circumstances.

WATERING TIPS

In hot weather, plan on supplying about 1/2" water every other day to a typical lawn. Clay soils do better with 1/4" every day to reduce runoff and puddling. Ask your local nursery for a schedule suited to the special weather and soil conditions in your area. Once you know how much water to supply, and how often, place a flat pan or other container on you lawn and measure how long it takes your sprinkler system to deliver that precise amount. Use these run times to prevent over watering.

TROUBLESHOOTING

Malfunctions aren't common, but when they occur, they're often due to one of these frequently overlooked causes. See the specific operating manual for your timer for additional information.

For more information

The Lawn Genie customer service team is always ready to offer advice in response to your sprinkler-system design and installation questions. Call our toll-free hotline for fast assistance.

1-800-231-5117

PROBLEM	**POSSIBLE CAUSE**	**SOLUTION**
One or more valves do not water	1. Faulty solenoid	1. Replace solenoid
	2. Poor wire connection	2. Connect wires or double check wire connection
	3. Possible break in wire	3. Replace wire
	4. Valve flow stem screwed down too far	4. Loosen flow stem screw
	5. The common wire is not connected	5. Connect common wire or double check wire connection
	6. Shut-off or other service valve is closed	6. Turn on or open service valve
Circuit breaker is tripped	1. Faulty solenoid	1. Replace solenoid
	2. Poor or shorted wire connection	2. Inspect wire connection; replace wire if necessary
One zone won't shut off electrically	1. Faulty valve	1. Replace valve
	2. Particles of dirt or debris are stuck in valve	2. Disassemble valve and clean with fresh water
Pop-up doesn't spray evenly	1. Screen or filter basket is clogged	1. Clean screen or filter basket
Pop-up won't retract	1. Dirt is lodged in wiper seal	1. Clear debris
	2. Wiper seal is worn	2. Replace sprinkler
Spray covers incomplete pattern	1. Nozzle is clogged with dirt	1. Clear debris

We Make It Easy. Lawn Genie®

Your home's landscaping represents a considerable investment in both time and money. That's why you want to protect your investment with the dependability and performance of Lawn Genie® irrigation products. For years, Lawn Genie has been a top choice of both homeowners and yard care professionals. Lawn Genie offers a complete line of automatic timers, valves and sprinkler heads that help conserve water and reliably satisfy your home watering needs. Watering your yard with a Lawn Genie irrigation system makes it easy — so you can spend more time enjoying your home's landscaping and less time watering. For more information, call 1-800-231-5117 or visit our web site at www.lawngenie.com.

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