

Automatic Drip Irrigation

User Manual

The following is the user manual. It covers complete details on various parts of the product how to count each part and how to assemble them. Also at the end of this we have given a video link which can be viewed if there is any problem with the assembly.

Parts

Following parts are used with the system:



Part 1: Base Stand



Part 2: Connecting PVC pipe (1.5 feet / 1feet / 0.25feet)



Part 3: Elbow



Part 4: Valve



Part 5: Coupler



Part 6: Pipe



Part 7: Shower



Part 8: 2 Way threaded nipple



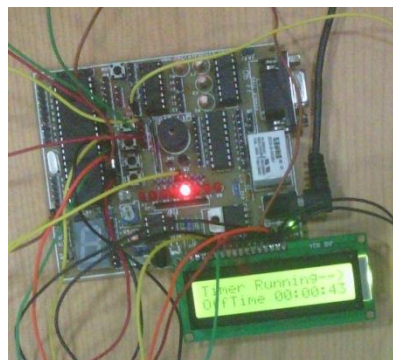
Part 9: T-Section



Part 10: Pump



Part 11: 1 side Threaded nipple



Part 12: Timer (initial Model)

Part 1: **Base Stand:** Every potted plant needs one such base. The pot is placed on the platform shown in the picture. Each part has a T section attached permanently to it which is used to make the stand.

Part 2: **Connecting PVC Pipe:** These are the PVC pipes used to make the stand through which the water pipe shall go. They are available in three different sizes 0.25feet, 1foot and 1.5feet.

Part 3: **Elbow:** This is used to make 90degree turn.

Part 4: **Valve:** This is used to control the amount of water flowing.

Part 5: **Coupler:** These are used to connect two pipes together.

Part 6: **Pipe:** This is used to flow the water. It is available in different lengths as per the user requirements.

Part 7: **Shower:** This is used to water the plants.

Part 8: **2 Way threaded Nipple:** This is used to connect various parts together. It has threads on both the sides.

Part 9: **T-section:** This splits the flow of water into two different directions.

Part 10: **Pump:** It is used to flow water with pressure.

Part 11: **1 side threaded Nipple:** This is used to connect various parts together. It has one side threads and other side is such that it can be directly put into pipes.

Part 12: **Timer:** It is used to control the on and off duration of the pump.

Part 13: **Tank:** This is used to supply the water. It shall be connected with automatic system to fill the tank when empty.

Part Dimensions

S. No.	Part	Dimension (mm)
1	Wooden Base Stand	458 X 305
2	T section on the base	ID 40
3	Connecting pipes 1 (smallest)	L 77 ID 40
4	Connecting pipe 2 (Medium)	L 305 ID 40
5	Connecting pipe 3 (large)	L 458 ID 40
6	Elbow	ID 40
7	Valve	ID 15
8	Coupler	ID 40
9	Pipe	ID 10
10	2 way threaded nipple	ID 15
11	1 way threaded nipple	ID 15
12	T section	ID 15

How to choose the parts?

Due to various parts one must first decide how many parts he/she needs for his/ her garden. Just follow the following easy steps and you can find out the number of each part required.

- 1.) Count the number of pots in your garden.
- 2.) Calculate the length and breadth of the roof top covered by pots in feet.
(Assuming the pots are placed near the boundary only)

Steps to calculate each part?

- a.) **Base Stand** = Number of Pots
- b.) **Connecting PVC Pipe** = Height of plant (may vary from plant to plant, we assumed each plant uses only 3, one each of 1.5feet, 1foot and 0.25feet)
- c.) **Elbow** = 2 X Number of Pots
- d.) **Valve** = Number of Pots
- e.) **Coupler** = Number of connecting pipes(1feet +1.5feet) - 1
- f.) **Shower** = Number of Pots
- g.) **2 Way threaded Nipple** = Number of pots
- h.) **T –section** = Number of Pots
- i.) **1 Way Threaded Nipple** = 4 X Number of Pots
- j.) **Pumps:** Number of Pots / 5 (Rounded off to nearest number)
- k.) **Pipe:** As per the requirements {usually (Length + Breadth of terrace covered by pots) + (5X number of pots) }
- l.) **Timer:** To run the pump timely.

How to set the timer?

Timer basically turns the pump on/off based on the timing set by the user.

There are 4 buttons on the timer:

1. Reset Button: This button resets the timer and starts the setup process.
2. Enter Button: Confirming the time user specified.
3. Hours Button: Increase the hour input by 1 unit.
4. Minutes Button: Increase the minute input by 1 unit.

Procedure:

- i. The user first presses the reset button to enter setup mode.
- ii. Next, he/she specifies the time the pump should remain on (in hrs:min). This can be done by pressing the hours and minutes button, which increases by 1 unit on each press, until the required time is displayed.
- iii. Now, press the enter button to confirm the on timing.
- iv. Next, the user should set the off timing for the pump in a similar way as described in step (ii).
- v. Finally press the enter button to set the timer running.
- vi. The timer can be reset at any period by pressing the reset button.

How to connect each part?

Follow these simple steps and you get your system ready very quickly.

Making the Stand

1. Take one Base stand.
2. Connect the PVC pipe on to the T section on the Base Stand.

3. Connect a coupler to the on the top of PVC pipe and again connect the pipe to increase the height.
4. Repeat the step 3 till desired height is achieved.
5. On the top of final Pipe connect the Elbow.
6. Connect the PVC pipe to the elbow horizontally.
7. Connect another elbow at the end of the PVC pipe.
8. Your stand is now ready. Make as many stand as required.



Complete Picture of Stand

Pipe connection

1. Take pipe and cut it such that it is sufficient to reach top of the stand from inside the PVC pipes.
2. Attach 1 way threaded nipple on both the ends of the pipe after inserting the pipe into the stand.
3. Now connect the shower to the nipple on the top portion.
4. Connect the valve to another end of the nipple which is at the bottom of stand.
5. Connect 2 ways threaded nipple to the value's other end.
6. Connect that nipple to the T section. Also using two 1 way threaded nipple connect the T section to the main line of water supply.
7. Your stand is now completely ready. Put the pot on the base plate and enjoy without worrying about watering the plants.



Complete Assembly along with the pipe fitting.

Final Assembly

Now place each pot on the base of each stand. And using the pipe which is left, connect all the T-sections in series that is one after another using different sizes as per the distance between two plants.

For the first and the last pot we will be left with one end of the T section not connected. So, connect the end of the first pot to the outlet of the pump from the tank.

For the end of the last pot using pipe connect it to the nipple which is at the top of the tank.

For using the timer, connect the timer input to a standard power supply socket and the timer output to the pump.

How to set the value of the valve as per water requirements?

The given below is the table of amount of water required by the plant during various seasons. Also, while connecting the valve set the knob of it according to the value given in the table as per the plant.



Water requirement of plants:

Type of plant	Hot weather *	Warm weather*	Cold weather*
Low shrubs(2-3feet)	0.85	0.55	0.3
Shrubs(3-5 feet)	1	0.65	0.35
Flowers	0.7	0.45	0.2
Vegetables	1.3	0.85	0.45
Small plants	0.35	0.5	0.55

*Gallons per day

Valve Positions for different plants:

Type of plant	Valve position
Low shrubs(2-3feet)	2
Shrubs(3-5 feet)	3
Flowers	2
Vegetables	4
Small plants	1

Timer Settings for different weathers:

Weather	Hot	Warm	Cold
On Time	15min	10min	5min
Off Time	23hr45min	23hr50min	23hr55min

To watch the Video how to on how to assemble please follow the link given below:

Link: <http://www.youtube.com/watch?v=tQAoTXG3Ie0>