

TROUBLE SHOOTING

Overflowing

There are few possibilities:-

1) Top float filled with water.

Corrective action:- Give the Smart-valve a shake and you tell if the top float is filled with water. If it did, drill two 4mm holes to the top float to drain the water. Then reseal the holes with sticky tap or hot glue.

2) Rubber dislodged from the lower float.

Corrective action:- Remove the bottom float to check if the rubber is intact. If it is, then turn the valve upside down and give the float a light tap to see if produce a rebound. If there is no rebound, you can try to remove the rubber, flip it over and re-insert to the original position and test again. If it still fails, then you need to get a replacement rubber from us. This is due to rubber fatigue.

3) Bottom float jammed.

This can happen when the bottom float is not properly re-attached to the body casing of the Smart-valve. Remove the bottom float and re-attach it back making sure that the bottom float can move freely.

4) Top float prevented from moving

This can happen if a foreign object were to interfere with the movement of the top float. For example, if something were to lay on the top float. You need to make sure the area surrounding the smart-valve is clear and it can move upwards freely without interference.

5) Smart-valve not securely locked into the trays.

This can happen when the valve is dislodged from the body of the tray. Possibly caused by accidental dropping of the Autopot units on the ground. Check to make sure the valve is securely attached in the right position and have not come loose.

Root interference

The very efficiency of the system can cause a problem. Roots from the pots go looking for nutrient and if unchecked will encroach into the Smart-valve. To overcome this problem, you can cut off the roots from the bottom of the pots once every two weeks. Root pruning will not cause any harm to the plants. Fortunately, there are no root problems with most plants (more than 90%). Examples of plants that can give problems are Cucumbers and tomatoes.

Cleanliness

Always keep the valve and its surround clean. Accumulation of algae and other particles (eg. Perlite) will only increase the chances of the valve being jammed.

Clean Water

It is important to use clean water that is free from solid particles such as undissolved nutrients or suspended clay particles.

It is also important to ensure that the in-line filter is clean regularly usually once a fortnight.

Exposure

The valve is designed to be used under protection from direct sunlight. The standard Autopot equipment provides sufficient protection from direct exposure to sunlight.

Warranty

Warranty period for the Smart-valve Mk2 is 12 months from purchase. The warranty covers manufacturing defects only. A receipt must be produced for the warranty to be valid.

Please feel free to contact us if you need further assistance. We are open including Saturdays and Sundays from 9am to 5 pm.



**Australian
Invention**

Apot Instruction/Testing the Smart-Friday, August 31, 2007

The Smart-valve Mark 2



GardenSmart

Traded as Autopot Systems

ABN 95 007 104 216

810 Springvale Road, Braeside (Melbourne), Victoria 3175, AUSTRALIA.

Ph:(613) 03 - 9701 8811, Fax:(613) 03 – 9701 8822,

Email: autopot@bigpond.com

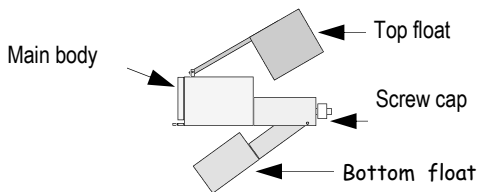
Web: www.autopot.com.au

THE SMART-VALVE

The Smart-valve is the heart of the Auto-pot Systems. This valve controls the supply of water to the plant in accordance to the plants needs. It is a simple mechanical device which is small enough to fit on the palm of your hand. Being simple enables it to be a low cost item making it practical to have one valve for each individual container and this is the very crux of the system's versatility. The Smart-valve is very different from the conventional ballcock type of float valve in that it allows total reduction of fluid level before it refills. It does not require any electricity or battery to operate automatically which is the major advantage over current traditional hydroponic systems.



Smart-valve Mk2

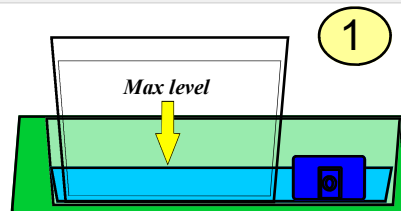


Smart-valve Mk2

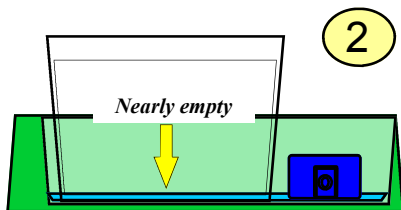
Significance of the Smart-valve working principle

The implication of this unique wet and drying out cycle is considerable and it is the key working principle of the Auto-Pot Systems. The idea of having a separate valve in each growing container is to allow the plant or plants in that container to dictate the watering cycle. This is unlike the way that traditional hydroponic systems supply the needs of average plant. Changes such as temperature, wind, sunlight and humidity allow the valve to immediately respond to the needs of the plant. In other words, **THE PLANT IS IN CONTROL.**

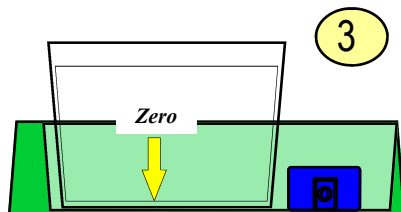
How it works



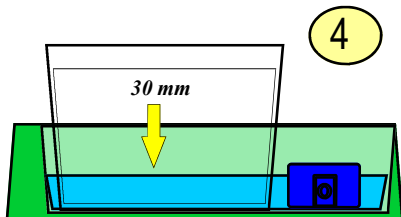
The tray starts to empty and the Smart-valve opens to let water into the tray to a pre-set level of about 30mm.



The water level in the tray drops as water is consumed by the plant. It is now nearly empty but the Smart-valve still remains closed.



The tray is now completely empty and will need some time (+/- 30 minutes) before the Smart-valve re-opens to let in more water.



The Smart-valve will close again once the pre-set water level of about 30 mm is reached and this completes one watering cycle.

Caring for the Smart-valve Mk2

Very little can go wrong with new Smart-valve Mk2. However, it is important to note that the valve is a sensitive mechanical device. With careful and correct usage will give reliable and trouble-free results for years.

The valve should not be totally submerged in water. Total immersion may cause a failure of the valve to close due to the possibility of water entering the top float.

If in doubt about the working conditions of the Smart-valve Mk2, carry out a simple test to determine if it is working properly.

TESTING THE SMART-VALVE Mk2

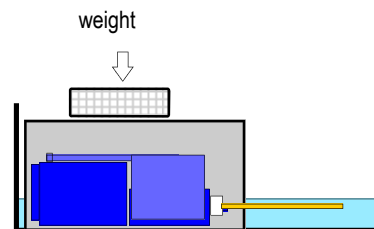


You can either use the Hydrotray itself or the saucer of the hanging basket for testing (as shown). Have the Smart-valve firmly secured to the bottom of the tray or saucer.

Connect the 4mm tubing to a tank of water.

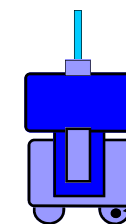
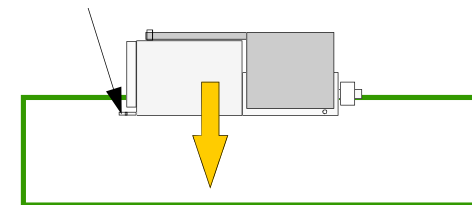
If do not the above items, you can use a container not smaller than 100 x 150 x 100mm (deep). A good example is an ice cream container. However, you need to find some way to secure the Smart-valve firmly to the bottom of the container.

One way is to get hold of a Smart-valve cover and weigh down the valve as shown.



If you do not have the Smart-valve cover, you need to find some way of securing the Smart-valve Mk2 firmly to the bottom of the container of similar size.

Semi-circular extension from the back of the valve.



One way of securing the Smart-valve Mk2 to the container is to put a small screw through the hole as shown.

Step 1 - Set up the Smart-valve mk2 as shown above. Preferably have the valve sitting 5mm above the bottom of the container (not required if you are using the Hydrotray or the saucer).

Step 2 - Connect the valve to a tank (2 litre or more) at least 1 foot above the container.

Step 3 - Allow the water to flow into the container through the valve. After several minutes, the valve will shut off the water supply into container i.e. when the water level is around 30 to 50mm (allowing marginal differences between valves).

Step 4 - After that, use a small tube to siphon off the water from the container until the water level reaches 2mm from the bottom of the valve (not the container).

Step 5 - Now allow the near empty container with the valve to stand for 2 hours. If there is no change to the water level after that period, that means the valve is holding back and remains shut.

Step 6 - You can continue to siphon off more water from the container until the valve reopens to let in some more water. Or you can let the container dry out naturally by atmospheric evaporation until the valves reopens which may take several days. This concludes that the valve is working properly.