User Manual Version 2.0

Introduction

Your Autostopcock unit has been designed to make the isolating of the mains water as easy as using a light switch and provides three essential Safety Detection Systems **– Leak Detection, Empty Property Detection** and **Freeze Detection.** It also has an Over-ride facility which provides an extended water flow when needed.

The system is battery operated using a long life Duracell Alkaline PP3 battery or similar and means you don't need to combine mains electricity and water. It can also be supplied with a remote PSU if required.

It is a proven system that can be easily installed by a competent home DIY'er or plumber and the maintenance of the unit is limited to changing the battery, which has a typical life expectancy of two to three years.

LEAK DETECTION

One of the key features of Autostopcock is detecting leaks by monitoring the flow of water in the incoming mains water pipe. Any periods of constant water flow exceeding the set maximum (Either factory set or user set via Dip switches) will cause the water to be shut OFF.

EMPTY PROPERTY DETECTION

Another important feature provided by your Autostopcock is empty property detection. This safeguard monitors the water flow and turns it OFF after any inactive period exceeding the set maximum (Either factory set or user set via Dip switches).

FREEZE DETECTION

The Autostopcock control unit contains a thermostat which continuously monitors the ambient temperature. It is factory set to turn the water OFF at 3 degrees C (36 deg F). If for some reason your heating fails or for any other reason your home gets colder than 4 degrees C, your Autostopcock will switch the water OFF.

OVER-RIDE

If you require constant water flow for more than the configured set maximum time (such as for watering the garden) the OVER-RIDE setting will give a maximum 1 hour of constant water flow without triggering the Leak Detection Shut Off.

SELF EXERCISING

As with most stopcocks and the associated valves, regular operation is necessary to avoid any build-up of scale on the moving parts which may render them faulty. The Autostopcock unit will automatically self-exercise the valve every 48 hours, i.e. it will very briefly switch OFF and ON twice.

Configuring the Autostopcock controller

Connect the 9v battery or PSU (**Warning – do not connect 240v to controller)**, the controller will cycle through a sequence on the display indicating the current set values for various parameters. At any time, the RESET button (on the front of the PCB underneath the large capacitor, see Fig.1) can be momentarily pressed to re-start the program and display the sequence again. The display is:-

1 **FLO** indicates that the Flow Timer setting will be displayed next
2 **XXX** the value of the Flow Timer setting in minutes
3 **EPt** indicates that the Empty Property Timer setting will be displayed next
4 **XXX** the value of the Empty Property Timer setting in hours
5 **CLd** indicates that the Low Temperature threshold setting will be displayed next
6 **XX°** the value of the Low Temperature threshold setting in °C

Note that if either timer or the low temperature threshold value has been set to 0 (zero) in the factory set options, then the displays at steps 2,4 or 6 above will display '**not**' to indicate that the protection feature has been disabled.

Flow Timer
This is one of the main leak detection timers and it is important that it is set correctly for your properties safety.

The switch bank **SW1** (on the rear of the controller PCB, see Fig.1) is used to alter the Flow Timer setting. Only poles 1 to 4 of this bank are used.

Pole 1	**Pole 2**	**Pole 3**	**Pole 4**	Flow Timer setting (minutes)
off	off	off	off	(Factory set option - 45mins)
on	off	off	off	1
off	on	off	off	5
on	on	off	off	10
off	off	on	off	15
on	off	on	off	20
off	on	on	off	25
on	on	on	off	30
off	off	off	on	35
on	off	off	on	40
off	on	off	on	45
on	on	off	on	50
off	off	on	on	60
on	off	on	on	70
off	on	on	on	80
on	on	on	on	90

The DIP switch settings are updated by the unit every one second, but note that changes in time settings may only take effect once any existing timer cycle is completed, and a new one commences.
Therefore, once DIP switch settings have been changed, it is recommended to press the RESET button so that the new time settings can be loaded immediately, and the Power-Up display sequence is useful confirmation of the changes made.

Empty Property Timer

Switch bank **SW2** (on the rear of the controller PCB, see Fig.1 below) is used to alter the Empty Property Timer setting. Only poles 1 to 3 of this bank are used

Pole 1	**Pole 2**	**Pole 3**	Empty Property Timer setting (hours)
off	off	off	(Factory set option – 72hrs)
on	off	off	12
off	on	off	24
on	on	off	36
off	off	on	48
on	off	on	60
off	on	on	84
on	on	on	96

The DIP switch settings are updated by the unit every one second, but note that changes in time settings may only take effect once any existing timer cycle is completed, and a new one commences.
Therefore, once the DIP switch settings have been changed, it is recommended to press the RESET button so that the new time settings can be loaded immediately, and the Power-Up display sequence is useful confirmation of the changes made.

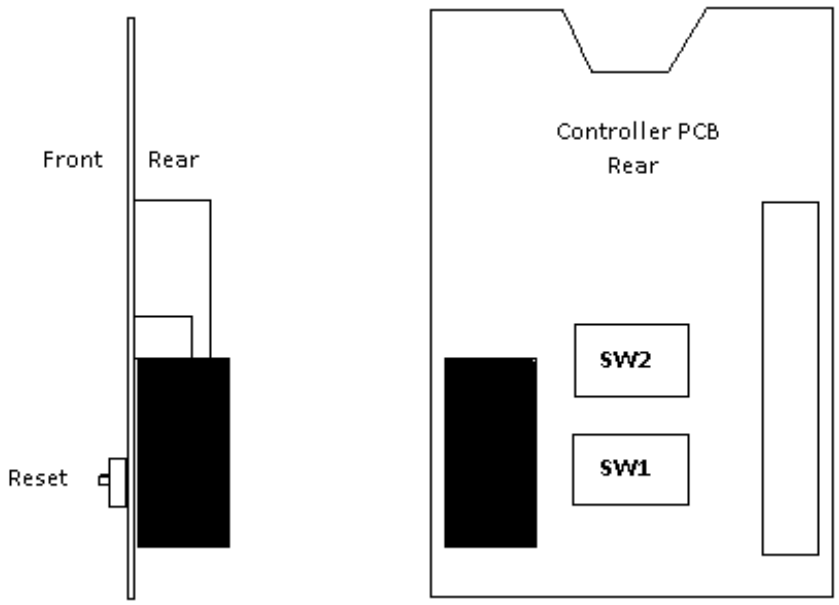


Fig. 1

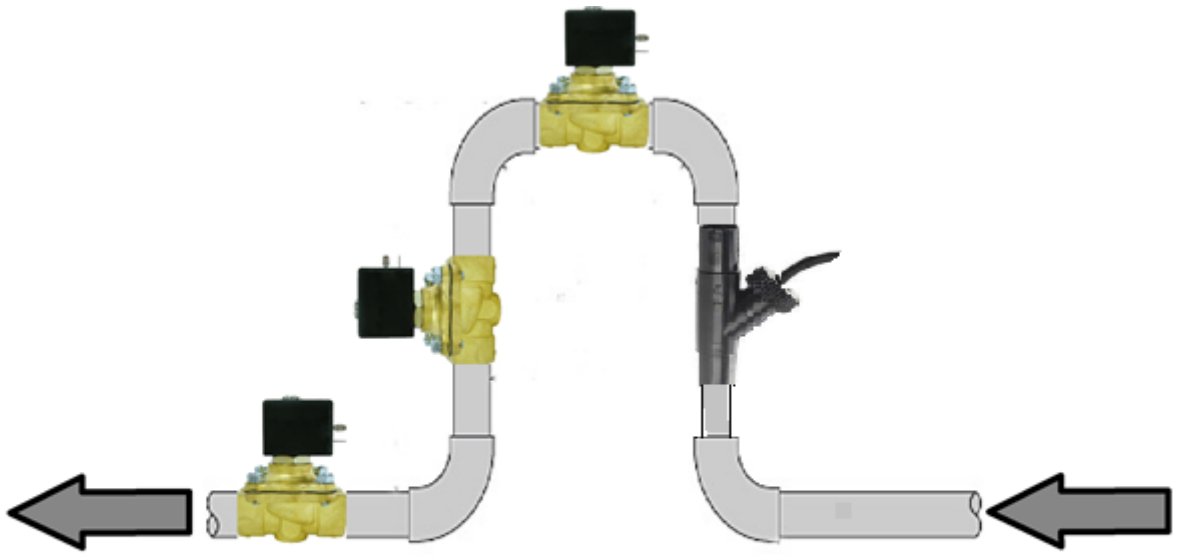
Plumbing installation

Note – ensure you are using the correct PPE before starting the installation.

Turn off the mains water at the existing manual Stop Valve. Cut into the rising main above the manual stop valve. **IMPORTANT**- Do not disturb the existing earth bonding. An additional earth bond must be installed to connect metal pipework either side of the flow sensor.

Care should be taken as some residual water will be contained in the pipe beyond the stop valve. Then using wire wool clean both ends of the cut pipe. Flush out the pipe to clear any debris.

Then fit the brass Y Filter nearest the stop valve. Next install the flow sensor and solenoid valve. **Important Note –** Do not remove the date label or tamper proof seal off of the flow sensor as this will invalidate the warranty.



The Flow Sensor must be mounted in a vertical position with the water flow upwards. The Solenoid Valve can be installed in either axis as long as the water flow direction markings on the valve are observed.

Fig. 2

Note: If you have a water softener fitted, the Autostopcock flow sensor must be fitted after this.

Next fit the back box for the control panel in a suitable position (the cable provided is approx. 2m long).

Connecting the System

Note – Ensure you are using the correct PPE

To connect the controller (ensure you have already set the timers correctly using the Dip switches on the rear of the controller PCB) use the black valve connector block and cable provided. **see Fig.3 below**.

Solenoid Valve 1 (or + positive) connect to terminal 2 on reverse of faceplate.

Solenoid Valve 2 (or – negative) connect to terminal 1 on reverse of faceplate.

Flow sensor ~ connect to terminal 8 on reverse of faceplate.

Flow sensor ~ connect to terminal 9 on reverse of faceplate.

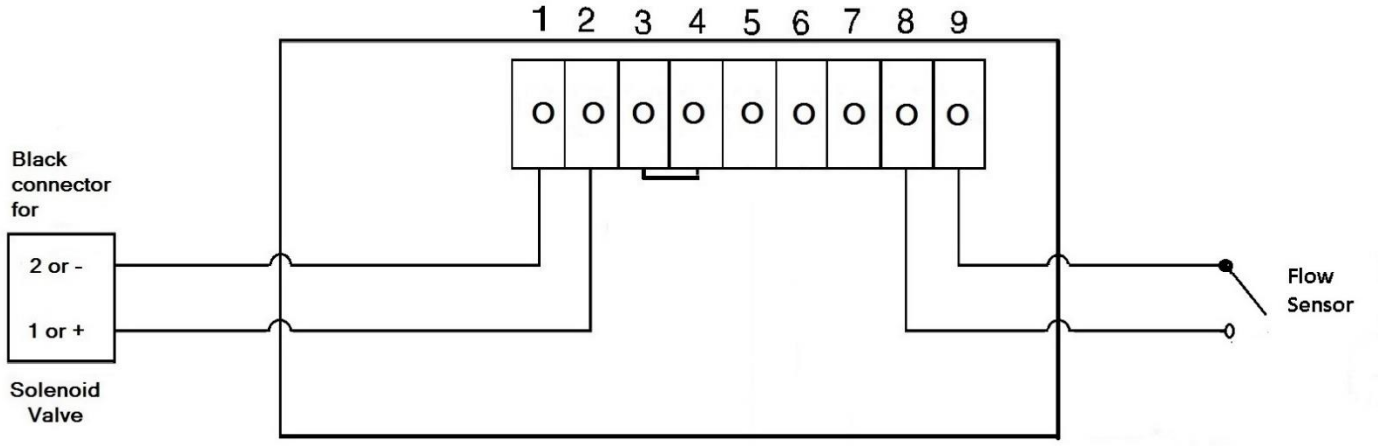


Fig. 3

System Test

To test the system open a cold water tap and switch the Autostopcock system ON and OFF and back ON again. The flow of water should be in line with the switch settings.

Using the System

The Autostopcock system is easy and intuitive. There are three settings that are selected via a single switch on the front of the controller – OFF, ON and Over-ride. Using the switch which can be pressed either up or down the OFF mode is at the top, followed by ON in the middle and Over-ride at the bottom.

OFF Mode

In this setting all safety detection systems are turned OFF and the solenoid valve is closed.

ON Mode

The Autostopcock system is now monitoring the flow of water and the 3 safety features – Flow detection, Empty property detection and Frost protection safeguards are all enabled.

Over-ride

The Flow detection timer is now over-ridden giving a maximum of 1 hour additional water flow. The display will show **O-r**

Trouble shooting guide

OFF alternating with FLO displayed on controller
The controller has turned off the water because the maximum flow time period has been exceeded, this may be because of extended use, because of a water leak or a water system overflow. Check your pipework thoroughly before switching the ASC controller back to ON

OFF alternating with EPt displayed on controller
There has been no flow of water for a period of time longer than the empty property settings. Check your water system thoroughly before switching the ASC controller back to ON

OFF alternating with CLd displayed on controller
This indicates the temperature at the controller has dropped to 3 degrees C or lower (the controller only monitor's ambient temperature close to itself)Check your water system and pipes thoroughly before switching back to ON (the temperature needs to be 4 degrees C or higher)

The ASC Systems is beeping and Lo BAt (alternating with system status) displayed on controller
This indicates that the battery is getting low and needs to be replaced. Remove the two screws holding the Faceplate controller, the battery is situated behind. Unclip and replace with the same or equivalent PP3 9v. The beeping will stop in approx. 1 min.

The ASC System is beeping and Err (alternating with system status) displayed on controller
The Err condition indicates the flow sensor registered water flow after the solenoid valve was set to off. There may be a wiring fault or an error condition with either the flow sensor or solenoid valve.