

INSTALLATION INSTRUCTIONS

Operation:

The Flow-Saver consists of an electronic control/sensor unit and a solenoid valve for installation into the water supply pipe of a urinal cistern. The unit monitors washroom traffic to schedule automatic cistern operations. These intervals are variable, their selection set by an internal two position switch. Where no motion is detected a hygiene flush is initiated at 12 hour intervals. In 30min and 60min mode only - during high usage periods, where the number of detections exceeds 20, a scheduled operation of 15 minutes will be initiated. Motion detection is signalled by two flashes of the blue LED located at the front cover.

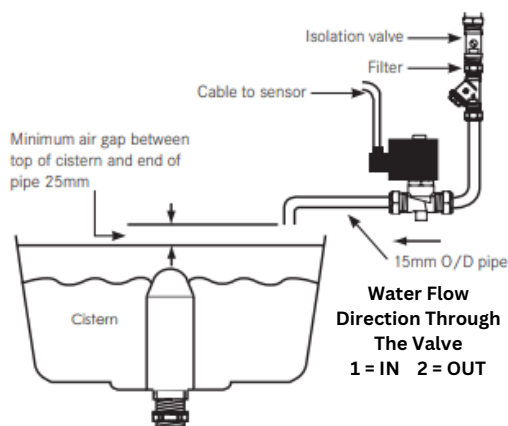
Fitting the Solenoid Valve:

It is recommended that a filter and Isolation valve (not supplied) be fitted prior to the solenoid valve to ensure reliable operation.

Turn off the water supply and position the solenoid valve as near to the cistern as possible, and preferably upright (as shown). Cut the supply pipe and purge any debris or swarf. Fit Solenoid valve ensuring correct flow direction 1=IN 2=OUT and joints are tightened- check for leaks.

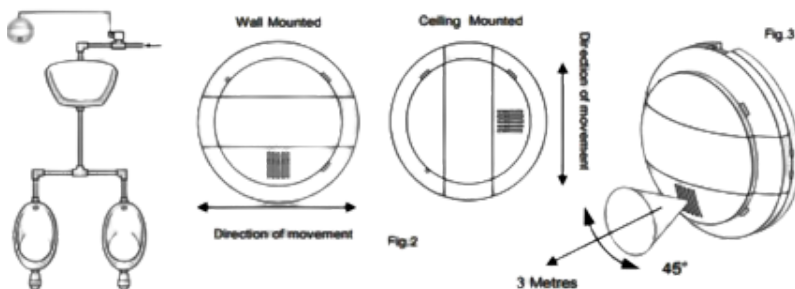
In the event of very low water pressure Gentworks may be able to offer alternative solenoid valve.

Note: If solenoid valve is in open position, see valve trouble shooting guide on page 3 on how to close it.



Positioning & Fitting the Sensor:

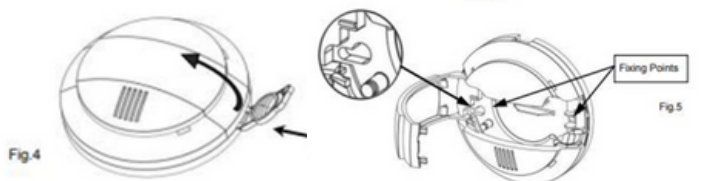
A typical arrangement is shown in (Fig.1). The sensor unit can be ceiling or wall mounted. It must be in a position where a user is sure to walk across the field of view of the sensor and within 3 metres of it. (Fig.2). The field of view is approximately a 45° cone extending perpendicular from the grill (Fig.3). The unit is secured using 2 screws. A keyhole is provided at one end to allow for easy alignment of the unit. (Fig.5)



The sensor should be located in a dry location, away from extremes of temperature and not exposed to dirt, dust or damp.

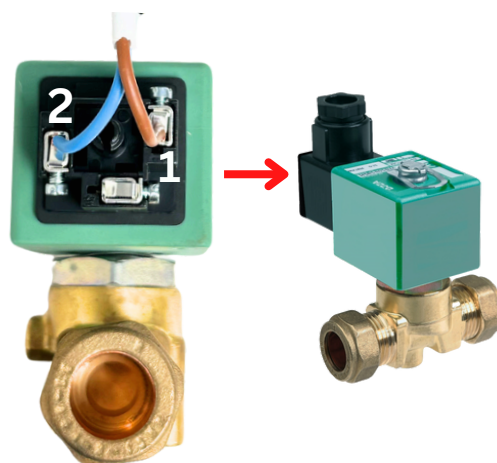
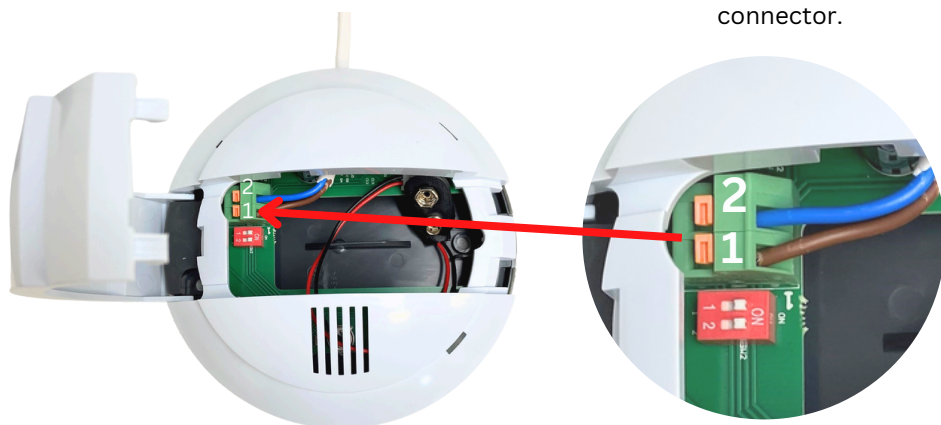
The sensor should be accessible when required but not within easy reach of unauthorised persons.

You must avoid locating the Sensor near heat sources, for example; radiators, hot pipes, etc or where direct sunlight may fall upon the sensor lens slots.



A plug kit is provided to allow easy connection of the solenoid. Using two core 0.5mm² flex, routed through the aperture on the base, connect terminal 1 on the plug to terminal 1 on the circuit board and likewise connect terminal 2 on the plug to terminal 2 on the circuit board.

Trim the cable to the length required, taking care to connect the blue and brown cables correctly to the valve connector and PCB connector.





To ensure quiet operation, urinal cisterns are designed to fill up slowly, typically taking around 2-6 minutes to fill.

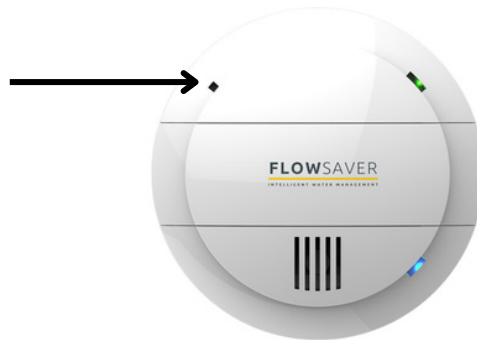
Cistern fill times under 60 seconds will not be recorded by the system memory. If the fill time exceeds 6 minutes, this is the maximum duration the system memory will record. Before setting the fill time, adjust the water supply flow speed to ensure the cistern fills within the required timeframe.

Cistern Fill Time Setting:

1. Fit 4xAA cells to the battery pack taking care that the polarity is correct on all 4 batteries. Connect to the battery lead from the PCB.

2. Following battery connection both Green and Blue LEDs will light and the beeper will sound for one second. Both LEDs will remain lit until the fill time is set. The valve must be closed (no water flowing) and the cistern empty before you set the fill time. Out of the box the valve should be closed but If the valve is in the open position see the valve troubleshooting guide on how to close it directly off the battery pack.

A paper clip or small screwdriver is required to operate the test button



A beeper will sound on power up to prompt you to set the fill time

3. To set fill time press and hold the TEST button for 3 seconds until both LEDs are off. The valve will now be open and water will flow into the cistern. During filling the green LED will flash once every 2 seconds. When the cistern has filled with water and flushed the TEST button should be pressed again to record the fill time. This cistern fill time value will be stored in the system memory. The fill time can't be less than 1 minute, if it is slow the water down via an isolation valve.

4. The first motion detection following fill time setting will generate an automatic flush. This initial detection flush will occur after an approximate 30 second stabilisation.

5. Installation is now complete. The battery lead should be positioned to allow the door to close without becoming trapped. Close the door firmly to engage the lock.

Testing:

The unit has a test cycle function where the operation of the solenoid valve can be checked. This can only occur if a cistern fill time has been set. The TEST pushbutton should be pressed and held down for 3 seconds to perform the test.

Resetting (Clearing System Memory):

1. Disconnect the battery pack.
2. Press and hold the TEST pushbutton. Re-connect the battery pack whilst continuing to hold the TEST pushbutton. Keep the pushbutton held down until both LEDs flash rapidly. Release the TEST pushbutton.
3. Both LEDs will remain on and a new cistern fill time can be set as per instruction above.

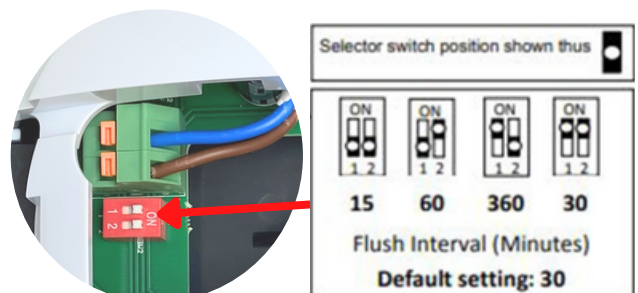
Low Battery Warning :

When a low battery level is detected the Green LED will flash twice in conjunction with the Blue motion detecting LED.

Advance Settings:

Adjustment not recommended, the default 30 minute flush interval is optimal in most cases.

The Flow Saver can be set to operate at 4 different flush intervals. A two-position switch provides sensor controlled 15, 30, 60 and 360 minute options. The default interval setting is 30 minutes. Changes are achieved by altering the switch positions as indicated in the Flush Interval Table (Fig.8)



TROUBLESHOOTING - Testing The Solenoid Valve

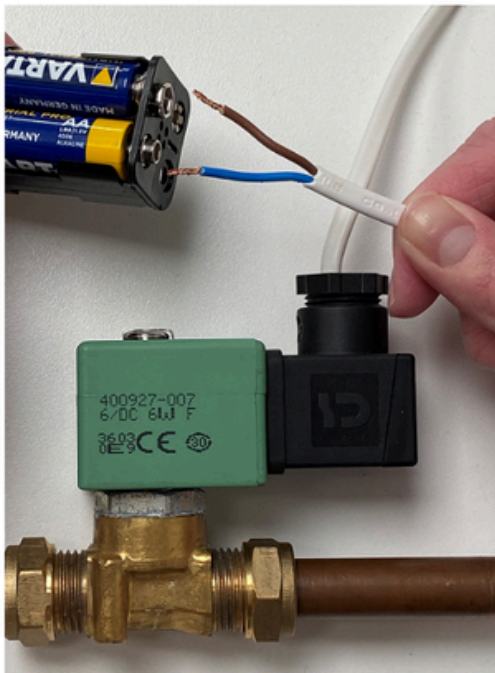
Testing the valve opens and closes directly from the battery pack will help establish which component is causing the issue.



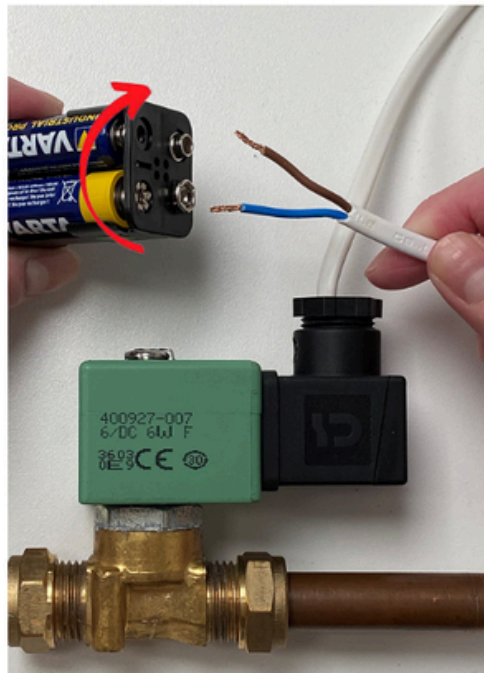
ASCO solenoid valves are known in the industry for their high-quality and reliability



Remove the battery pack from the control unit to manually power the valve for testing.



Flash the valve terminal wires onto the battery pack, this will open the valve and water will flow.



Rotate the battery pack to change the polarity and flash the valve terminal wires onto the battery pack again, this should close the valve and water will stop.

Other Checks
Check water flow direction through the valve: 1 = IN 2 = OUT
Check valve wiring is correct on the board and the valve terminal block:
1= Brown 2 = Blue

Only flash the battery pack onto the valve terminal wires briefly until you hear the valve click, prolonged contact could damage the valve.

The valve will not close correctly if waterborne swarf, dirt, or debris becomes trapped under the plunger and blocks the 2mm orifice. If the valve doesn't shut off when it's been powered closed it will need to be disassembled cleaned and re-assembled, this usually resolves the problem.

Please contact us for further information on how to clean and service the valve, this would not be covered under the guarantee as it's the debris blocking the valve that has caused the malfunction and could have been prevented by flushing out pipework prior to installation.

When the valve has been cleaned and is working correctly it's best to clear the system memory on the PIR control box and set the cistern fill time again (see main product instructions).

If the valve opens (water flows) and closes (water stops) when powered directly off the battery, then it will be an issue with the PIR control box and if re-programming fails it may need replacing.

Please note that the 2mm orifice valve supplied as standard will not work on extremely low water pressure (tank feed header tanks etc.) A low-pressure valve with a larger orifice will be required.