Infrared Control Valve Installation Guide
Supplied Parts

1. Sensor Unit
2. Solenoid Valve
3. Mounting Bracket
   (for cavity walls or ceiling tiles)
4. Remote Valve Plug & Gasket
5. Mounting Screws M3.5 x 40mm (x2)
6. Solenoid Mounting Screw M3 x 30mm

Not Supplied

2 core low voltage cable for remotely installed applications

⚠️ Do not power unit until installation is complete and wiring carried out to BS7671 IEE regulations.

⚠️ Isolate water supply before powering up.

FIT IN ACCORDANCE WITH WATER REGULATIONS
Under the water regulations, urinals should use no more than 7.5 litres per bowl per hour (10 litres for a single bowl)

1. Introduction

The infrared urinal flush control (IRC) valve automatically manages the supply of water to a urinal cistern.

The IRC is only to be used in conjunction with a cistern and is suitable for fixing to solid or cavity walls and false ceilings, or directly onto pipework. The IRC sensor unit can be installed separately from the solenoid valve.

On detection of movement in the washroom, the IRC activates a 30 minute cycle allowing water to flow into the cistern.

During the last five minutes of the 30 minute cycle the sensor ‘looks’ for movement. If no movement is detected during these five minutes the valve will close. If the sensor detects movement a new 30 minute cycle is activated. If no movement is detected for 12 hours the IRC will activate a hygiene cycle.
2. Positioning

Pipe Mounted
(Battery-powered only)

Remote Mounted
(Mains and/or Battery-powered only)

Sensor range

Typical UK Male Height
1.7 m

Maximum detection range 2.5 m

NOT TO SCALE
3. Valve installation

Install the valve on the 15mm pipe feeding the cistern.

It is good plumbing practice to install an isolation valve upstream from the IRC valve.

**NOTE:** The valve should be positioned with the directional arrow pointing in the same direction as the flow of the water with the solenoid on top.

**NOTE:** There should be no restriction, such as a petcock or bibtap, after the valve.

Changing the flow direction

In some installations the solenoid head may be facing the wall and the sensor cannot be fitted. You can turn the head around using the following action:

- Remove the solenoid coil clip (1)
- Lift the solenoid (2) and rotate the valve body (3)
- Replace the solenoid coil clip (1)

**NOTE:** Where one cistern feeds multiple urinal outlets, ensure the urinal outlets are evenly distributed and balanced so the cistern gives equal flush.

**NOTE:** One IRC is required for every cistern.

4. Sensor installation

Pipe Mounted
(Battery-powered only)

**NOTE:** One IRC is required for every cistern.
**Remote sensor**
(Mains and/or Battery-powered)

Connect cable from solenoid using the floating socket supplied
Make sure cable polarity is correct: 1 to 1 and 2 to 2

If mains power is used connect 230v here

Secure cable clamp after wiring

Cable 1mm$^2$ (max 10m) to solenoid

Solenoid mounting screw

Floating socket

**Solid wall/ceiling**

Cavity wall/ceiling
(Flush mounted)

Use mounting bracket to secure sensor in a cavity wall/ceiling

Use template in box to cut hole

Wall/ceiling/tile

Sensor

Mounting screws locate at the back of the battery compartment (hand tight only)

Front cover

Suitable screws (not supplied)

Wall fixings (not supplied)
5. Power

Pipe mounted installations are Battery-powered only but Remote mounted installations can be Battery-powered and/or Mains-powered

**Battery**
- Insert 4 x AA Batteries
- Remove front cover

**Mains**
- Mains cable specification:
  - Nominal 230V ± 10% AC 50Hz
- Solenoid cable specification:
  - CSA = 1mm²
  - Length 10m (max) from sensor to solenoid
- Secure cable clamp after wiring

Do not mount a valve with Mains power directly onto pipework

When fitted directly onto pipework, only use Battery power

230V to be installed by a qualified electrician on a 3 Amp fused spur

6. Commissioning

Once all is installed, the flow rate will need to be adjusted to suit the particular installation.

Using the flow regulator on the bottom of the solenoid, you can either increase or decrease the flow of water. Ideally the cistern should flush once every 30 minutes.

Adjust the valve by turning the screw at the base of the brass valve body; clockwise to reduce the flow and anticlockwise to increase the flow.

NOTE: Use the table below to set your cistern to flush once every 30 minutes. Adjust the flow through the valve so it takes the time below to fill a measuring cup to 100ml.

<table>
<thead>
<tr>
<th>Cistern size</th>
<th>Time to fill 100ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5L</td>
<td>40 sec</td>
</tr>
<tr>
<td>9.0L</td>
<td>20 sec</td>
</tr>
<tr>
<td>13.5L</td>
<td>13.5 sec</td>
</tr>
</tbody>
</table>
7. Test & economy modes

Test cycle
When the test button (2) is held down for over 2 seconds and less than 10 seconds then released the unit will go into Test mode. It will first test the valve and the sensor will show amber, flashing each time the valve opens or closes. It will perform this action 5 times. The unit will then test the sensor and only flash amber to confirm that it picks up any motion. Your movement around the room will highlight this is working.

The test cycle can be halted at any point by pressing the Test button and releasing straight away.

Switching sensor mode
Holding down the test button (2) for longer than 10 seconds will switch between Normal and Economy modes. Whilst the test button is held down the sensor light (1) will show the mode that it is in:

- Solid green indicates Normal mode
- Flashing green indicates Economy mode

Normal mode
When a presence is detected the valve will remain open for 30 minutes. Whilst in operation a single green flash will be seen.

Economy mode
When a presence is detected the valve delays opening for 15 minutes and then will open for 30 minutes. Whilst in operation a double green flash will be seen.

- If the sensor detects movement in the last 5 minutes of either mode’s 30 minutes cycle it will reactivate a new cycle.
- The unit is supplied in Normal mode.
- When powered down the unit will remember the mode it is in.

NOTE: At any point that the test button is pressed and released the valve will close until there is movement in front of the sensor.

8. Usage advice and specification

Power
Mains Supply: Nominal 230V ± 10% AC 50Hz 20mA
Battery Supply: 6V from 4 x alkaline AA (LR6) batteries
Batteries (recommended): Duracell Plus (Gold Top) MN1500
Capacity 2700mAh
Operating Life: Up to three years with recommended batteries depending on washroom usage.

Solenoid valve
6V Latching Valve:
UK WRAS approved. One valve per sensor unit.

Pressure range
Supply Pressure: 0.1 - 6.0 bar. Integral slow-fill flow regulator. If supply pressure is above 6.0 bar, fit a pressure reducing valve.

<table>
<thead>
<tr>
<th>LED sequence</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GREEN flash once every 3 seconds</td>
<td>Valve open – battery powered</td>
</tr>
<tr>
<td>GREEN flash once every 2 seconds</td>
<td>Valve open – mains powered.</td>
</tr>
<tr>
<td>AMBER flash</td>
<td>Start up or Test cycle</td>
</tr>
<tr>
<td>RED flash</td>
<td>Low power</td>
</tr>
<tr>
<td>RED double</td>
<td>Fault</td>
</tr>
</tbody>
</table>
9. Frequently asked questions

Test mode does not function

<table>
<thead>
<tr>
<th>No power</th>
<th>Ensure unit is powered. Change batteries if battery powered; ensure mains electrical power is functioning if mains powered.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply fault</td>
<td>Disconnect one source of power and check by pushing the test button. When the sensor is mounted directly on the valve it should be battery powered ONLY. Also check remote wiring if sensor is remote from valve.</td>
</tr>
</tbody>
</table>

No water passing the valve

<table>
<thead>
<tr>
<th>Water supply</th>
<th>Ensure water supply is turned on and reaching the valve. The valve is suitable for water pressures of 0.1 to 6 bar.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blockage on the outlet pipe</td>
<td>If a petcock or bibtap has been fitted, ensure it is removed or fully open. Instructions state there should be no restriction after the valve.</td>
</tr>
<tr>
<td>Mesh filter blocked on inlet</td>
<td>Remove valve. Check to ensure filter on the inlet side of the valve is clear.</td>
</tr>
<tr>
<td>Flow regulator</td>
<td>Ensure the flow regulator is fully opened; when the valve is letting water run, turn down to the required flow rate.</td>
</tr>
<tr>
<td>High water pressure (above 6 bar)</td>
<td>Fit pressure reducing valve before the IRC valve.</td>
</tr>
<tr>
<td>No power</td>
<td>Ensure unit is powered. Change batteries if battery powered; ensure mains electrical power is functioning if mains powered.</td>
</tr>
<tr>
<td>Economy mode</td>
<td>The unit has been put into economy mode. See section 7 to reverse this.</td>
</tr>
</tbody>
</table>

Water is continuously flowing through the valve

| User perception                   | Once activated the valve remains open for a period of 30 minutes and will reactivate if someone comes within the range of the sensor in the last five minutes of the 30 minute period. The valve appears to work continuously as long as someone is in the washroom. |
| No power                          | The power has failed while the valve is in the ‘open’ position. Ensure the unit is powered. Change batteries if battery powered; ensure mains electrical power is functioning if mains powered. Go through test cycle when power is restored. |
| Valve incorrectly fitted          | Ensure the arrow on the brass body is pointing in the direction of water flow. |

The valve remains shut when the room is occupied but opens at other times

| Incorrect remote wiring           | If the valve and sensor have been set up remotely, ensure the remote wiring is wired as follows: ‘1’ to ‘1’ and ‘2’ to ‘2’. If you find the wiring is connected ‘1’ to ‘2’ and ‘2’ to ‘1’ then the valve is working in reverse. |

Water flow rate through the valve seems to be very slow

| Flow regulation                   | Increase the flow rate by turning the flow regulator anti-clockwise until you reach your desired flow rate; ideally it should fill the cistern once per activation and then flush. See Step 6 ‘Commissioning’. |
| Mesh filter blocked               | Check to ensure filter on the inlet side of the valve is clear. |
Water flow rate through the valve is fast and the cistern is flushing too frequently

| Flow regulator | Decrease the flow rate by turning the flow regulator clockwise until you reach your desired flow rate. Ideally it should fill the cistern once per activation (i.e. every 30 minutes) and then flush. See Step 6 ‘Commissioning’. |

I have just changed the batteries and there is no power to the unit

| Battery orientation | Check battery orientation; ensure there is not excessive corrosion on battery terminals. Ensure batteries are a reputable brand. |

Commissioning checklist

IRC

<table>
<thead>
<tr>
<th>No.</th>
<th>Activity</th>
<th>Checked</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Flush pipework prior to installation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Ensure the flow direction through the valve is correct.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Ceiling mounted: ensure sensor range will cover urinal area.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Electrical connections: ensure mains or battery power is connected. If mains powered, ensure mains adaptor is wired to 3A fused spur.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Remote solenoid: check connections from sensor to solenoid are correctly wired, i.e. terminal 1 to 1 and terminal 2 to 2 between the sensor box and the solenoid.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Set flow rate as described in section 6.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Run the test cycle as described in section 7.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cistermiser product warranty and extended warranty

Cistermiser products are guaranteed for 12 months from the date of manufacture. The guarantee is for faulty products and parts only; there is no labour warranty. If you believe your product is faulty, please either contact Cistermiser directly on 0118 969 1611 or at support@cistermiser.co.uk, with a photograph of the serial number, to help diagnose the cause of the problem.

The warranty on Cistermiser products can be extended within one year of date of manufacture, at no cost, to three years from the date of installation. Once the valve has been installed, complete the product commissioning checklist below to demonstrate compliance with the installation instructions. Email a photograph of this completed form to warranty@cistermiser.co.uk or post to Cistermiser, Unit 1, Woodley Park Estate, 59-69 Reading Road, Woodley, Berks, RG5 3AN.
Cistermiser range

Urinal Flushing

Hydraulic Valve
An automatic urinal flush control valve which reduces water consumption. The valve uses a simple patented mechanism which prevents water waste by ensuring that the auto-flush cistern is only filled, and can only flush, when the washroom is used.

Infrared Control (IRC) Valve
This valve automatically manages the water supply to the urinal cistern and reduces water consumption by up to 80%. The PIR sensor detects movement and activates the solenoid valve, allowing water into a urinal cistern.

Direct Flush Valve
An infrared sensor controlled urinal valve. It automatically flushes individual urinals after use, ensuring the highest level of hygiene from the minimum volume of water.

Infrared Taps

Novatap
A contemporary deck-mounted chrome tap. The infrared control reduces water and energy usage and eliminates the risk that the tap may be left running.

Vectatap
An elegantly designed infrared tap with the benefit of hygienic hands-free operation. Vectatap improves water and energy efficiency and includes auto-shut off and hygiene flush features.

Toilet Flushing

Easyflush Wave
An infrared, hands-free and water-conserving WC cistern flush valve suitable for concealed or exposed cisterns. Easy to install in retrofits or new installations, its no-touch dual flush WC cistern valve promotes water economy and hygiene in domestic and commercial washrooms.

Easyflush Walkaway
An infrared controlled automatic WC cistern flush valve that is suitable for concealed cisterns. The valve flushes once the user exits the cubicle. Ideal for use in environments where hygiene and water economy are concerns.

Easyflush Direct
An infrared electronic flushing system that removes the need for a WC cistern by taking its water feed straight from the mains supply. Ideal for high traffic areas as the system allows for a second flush without a delay.

Washroom Control

Sensazone
An innovative system to conserve water and energy. Occupancy is monitored by sensors; when someone enters the washroom all services controlled by Sensazone are activated – the hot and cold water, lighting and extractor fans.

Remote Monitoring

LinkThru
The latest innovation from Cistermiser, LinkThru TMU delivers remote real-time monitoring of water temperatures on a 24/7 basis. LinkThru TMU harnesses the power of the Internet of Things to monitor water temperatures and helps to ensure Building Owner compliance with HSG274, reducing the risk of Legionella.
Salamander is one of the UK’s leading manufacturers of pumps for boosting water pressure for showers, bathrooms and whole house supply in domestic and small commercial tank-fed systems.
www.salamanderpumps.co.uk

Talon is the UK market leader in the manufacture and supply of plastic pipe clips, pipe collars and fixing plugs, plus a range of cover profiles for concealing pipework.
www.talon.co.uk

Keraflo manufacture delayed action float valves, which provide an accurate and effective method of controlling the level of stored cold water in tanks both with and without raised float valve chambers. The range is used in domestic, commercial and industrial applications worldwide.
www.keraflo.co.uk

Combimate is a domestic limescale prevention device that prevents limescale build-up and soft water corrosion in combination boilers and other domestic hot water appliances.
www.combimate.co.uk

Homeboost is an intelligent pump from Salamander Pumps that recognises when water flow is less than 12 ltrs/min and automatically boosts the performance of the incoming mains water up to 12 ltrs/min.
www.home-boost.co.uk

Pendock manufacture solutions to the challenges of enclosing structures and perimeter casings for building interiors. The range includes pipe boxing, column and HVAC casings, radiator covers and washroom cubicles.
www.pendock.co.uk