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FlushSaver
Smart Toilet Systems

FLUSHSAVER INSTALLATION INSTRUCTION:

DIRECT MAINS URINALS

The standard kit for a FlushSaver Urinal unit comprises one 24 volt A.C. Adapter, one Control Unit (includes sensor), one 24 volt solenoid valve, one air-gap valve and one 2m length of two core cable.

PLACEMENT

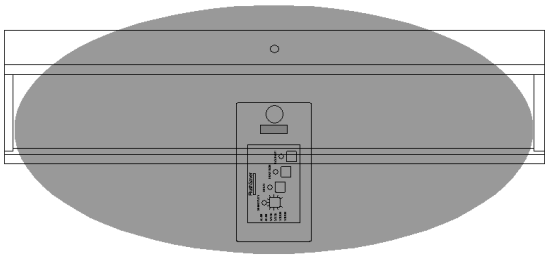
The Control Unit houses the microwave based movement sensor and the timing/solenoid activation circuitry.

Ideally, the Control Unit should be mounted in the ceiling cavity positioned centrally and at 90 degrees to the urinal face. This type of mounting is suitable only where the microwave field can pass through the ceiling material. Suitable ceiling materials include plasterboard, Stammit or similar types of suspended material - concrete and steel are not suitable.

In addition the mounting position should be no more than 4 metres from ground level.

In cases where the ceiling construction incorporates metal, thick masonry or steel, the Control Module can be mounted outside the ceiling in a security box.

Source of the power supply should be considered when positioning the Control Unit.



Typical sensing area

POWER SUPPLY.

A standard mains power point is required within 3 metres of the Control Unit. The A.C. Adapter is connected to the Control Unit at the positions marked “AC” on the unit. Do not turn the power on until installation procedures have been completed. **All wiring should be in conduit.**

CONTROLS AND INDICATORS

Please note that these controls are delicate.

The unit has 4 controls and corresponding indicators as follows:

1. "Sensitivity"
   This controls the detection range of the microwave sensor.
   Clockwise rotation on the control will increase the distance over which customers will be detected.
   The indicator will illuminate whenever moving is detected.
2. "Delay"

   For urinal operation, the delay switch must be set to 0 and the Solenoid Valve will open after 60 seconds.

   The indicator will illuminate while this time delay is in effect.
3. "Duration"
   This control determines the time for the Solenoid Valve to stay open.
   The indicator will illuminate while the valve is open.
4. "Lockout"
   This control determines the minimum time between successive flush operations.
   The indicator will illuminate while this time delay is in effect.

OPERATION

Provided a "lockout" interval is not in effect:

Upon detecting movement, a "delay" interval will commence and further movement will be disregarded.
At the conclusion of the "delay" interval the Solenoid Valve will be activated for the selected "duration".
At the conclusion of the solenoid operation the "lockout" interval will commence.

If a "lockout" interval is in effect:

Whenever movement is detected the "delay" interval will commence, with continuing movement extending the delay.
At the conclusion of both the delay and lockout periods, the valve will be activated as described above, and the cycle will repeat.

The unit will flush if no flush has otherwise occurred in the past 6 hours.

TIME SETTINGS

The settings are as follows:

Switch	Delay	Duration	Lockout
0	60 sec	2 sec	30 sec
1	N/A	4 sec	1 min
2	N/A	6 sec	2 min
3	N/A	8 sec	3 min
4	N/A	10 sec	4 min
5	N/A	12 sec	5 min
6	N/A	20 sec	7 min
7	N/A	45 sec	9 min
8	N/A	60 sec	11 min
9	N/A	120 sec	30 min

SENSITIVITY ADJUSTMENT

The sensitivity of the movement sensor is controlled by the "sensitivity" control.

Clockwise rotation of the control will increase the distance over which objects will be detected.

The normal setting for this control will be in the range 25 to 50% or travel.

Sensitivity should be adjusted by observing the indicator (or activating test mode, as described below) and selecting a position where consistent operation is achieved throughout the desired detecting zone.

TEST MODE

The unit has a test mode to assist during installation.

When this mode is active, the Solenoid Valve will operate directly under the control of the movement sensor, without any normal operational delays or lockouts being applied.

This facility allows the extent of the FlushSaver detection area to be verified by performing a “walk test” while listening to the clicking of the water valve.

Test mode is enabled by performing the following operations with the Delay, Duration and Lockout switches:

1. Power the unit normally,
2. Select 0, 0, 0 on the switches (if not already selected)
3. Select 1, 1, 1 on the switches ,
4. Again select 0, 0, 0 on the switches.

While test mode is active, the Delay, Duration and Lockout indicators will flash. The Sensitivity indicator will continue to operate normally.

To terminate test mode:
Move any of the Duration & Lockout switches to the required setting.

SOLENOID VALVE.

The Solenoid Valve should be fitted in the water supply line taking notice of the flow director indicator on the Solenoid Valve. The Solenoid Valve is connected to the Control Unit at the points marked “Sol 1” – one wire from the Solenoid Vale into each connection. If it is a “double Urinal unit” the second Solenoid Vales is connected as above into “Sol 2”.

NOTE:

All FlushSaver parts should be fitted out of sight or at least out of reach of the customers for reasons of aesthetics and vandalism. If the Solenoid Valve or Control Module is exposed we recommend a security box for these items and all wiring in conduit.

Solenoid Valves must be fitted with disconnection unions either side of the Valve to allow maintenance

Solenoid Coverage:

One Solenoid Valve will flush 3-4 Wall hung Urinals or 2.4 metres of slab.

Two Solenoid Vales can be used to double the area covered with 1 Control Module.

NOTE: Not more than two Solenoids should be run off one Control Unit.

Torx Slot/Drive heads are used to open the Valves to clean – Available from Blackwoods

WIRING THE SOLENOID VALVE:

A black plug (supplied with the Solenoid Valve) is wired up and clips onto the pins on the Solenoid Valve.

There are 3 pins on the Solenoid Valve – the two opposite each other (slightly smaller) are wired up – the larger Pin is for the Earth

PRESSURE REDUCTION VALVE:

In installations where there is high water pressure and flow rates the stop- cock may have to be partially closed to prevent water escaping from the Air Gap. This causes water turbulence that often results in a noisy installation. Should this be the case a set pressure reduction valve (350-500KPA) should be placed in the water line – where it is a multi-storey facility – one per floor is required.

NOTE: Care should be taken installing the Air Gap as Follows

1. **Ensure that the Solenoid Valve and Air Gap are vertically aligned with the flush pipe.**
2. **Ensure that the Air Gap is installed such that all of the 40mm thread is inside the female coupling.**

It is recommended 40mm sparge pipe for a minimum of 300mm from the Air Gap – then reduce to 19mm.

Connection onto the Air-gap Valve thread should be with a 40mm F.I. coupling (no.2) PVC or Copper F I brazing bush. **Do not use 40mm Cap and Linings.**

PLEASE NOTE:
Ensure that the water line is flushed of any rubbish before the Solenoid Valves are connected to ensure nothing gets caught in the Valves to stop them closing correctly. Should they fail to close correctly the Valves should be checked and cleaned.

- **IN-LINE FILTER:**
  An in-line filter/Y Strainer 200-300 micron MUST be placed after the stopcock to prevent water contaminants from entering the Solenoid Valve and unseating the valves diaphragm.
  OR WE RECOMMEND - http://puretec.com.au/phone/hybrid-g-water-filter-system.html
  Filter of 100-200 Micron

Should you require assistance in commissioning WCSI product – this is available at our standard call out fee plus an hourly rate.

For urgent assistance please call 1800 874 625

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