Installation and Operation Instructions

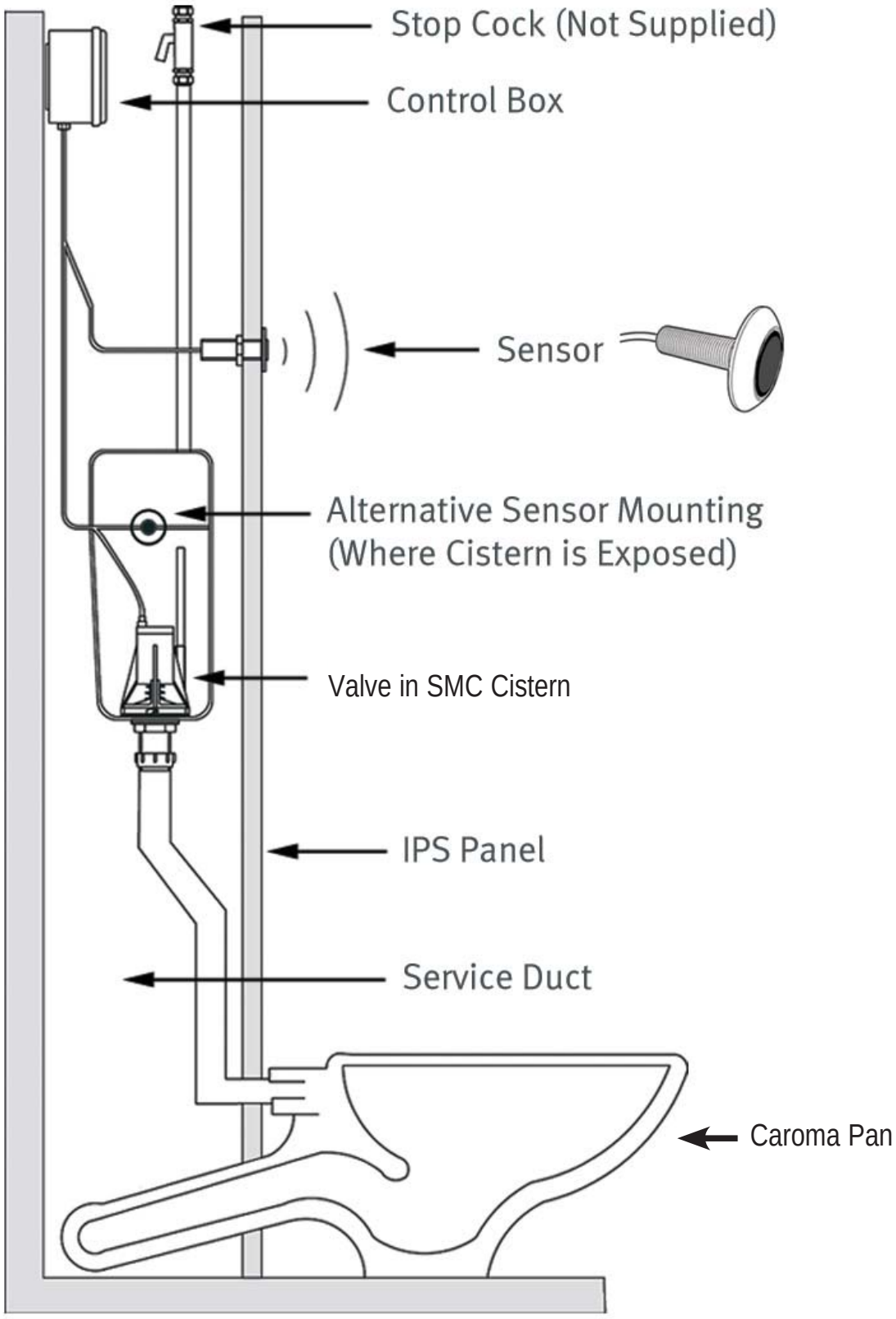
FlushMaster® Cistern & Valve Assembly

Model 43099 - FlushMaster Std. Cistern* and Valve assembly (75mm Body)

Model 41096 - FlushMaster Cistern Outlet valve 75mm dia. Body

Model 41097 - FlushMaster In Wall Cistern* and Valve assembly (75mm body)

*NOTE - Cisterns are fitted with Fluidmaster inlet valves and all have 50mm BSP outlets



Contents

Read these Warnings first

- Read all the instructions before operating this appliance.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- If the plug or cord are damaged they must be replaced by a qualified technician. To avoid hazards, all installations must be carried out by a suitable qualified tradesperson.
- The Cold water supply to the Cistern inlet requires a minimum pressure of 70kPa and a Max pressure of 700kPa. If the pressure is likely to exceed 700kPa then install a 500kPa pressure limiting valve.
- Always disconnect power and water before making any adjustments.

Product Features

The FlushMaster Cistern and Valve assembly is an electronically controlled system, designed as a versatile stand alone unit with dual flush capabilities to suit a variety of different installations. The FlushMaster assembly can be set to operate for up to 6.65 seconds (full flush) which can give you a 6 / 3 Litre flush. Factory set to deliver a 4.5 / 3 Litre flush (setting 5).

The electronic system uses two, no-touch, infared sensors, which have been modulated to activate when the user's hand is within 50 - 60mm of the sensor. The sensors are remotely mounted in a convenient position to allow for easy operational access. The no-touch sensors promote good hygenic practices and with no moving parts, require no maintenance and are vandal resistant.

For multiple installations a maximum of 4 control boxes may be fitted to a single 10amp GPO (see Fig.4)

Product Features

Compatible Standard Cisterns for 75mm Body Outlet Valves:

SMC Cisterns: 43099 series : SCC-1-PC, SCC-1-PB; SCC-3; SCC-1-DF; SCC-1-DFVR; with 50mm BSP outlet
Tank Dimensions: 400 W x 325 H x 170 D
Material : 304 Stainless Steel
Inlet Valve: Fluidmaster 747UK - side feed (optional with 400UK - bottom feed)

Compatible In Wall Cistern for the 75mm Body Outlet Valves:

Zip Cistern: Model 41097 with 50mm BSP outlet
Tank Dimensions: 470 W x 350 H x 83 D
Material: 304 Stainless Steel
Inlet Valve: FluidMaster 400UK - bottom feed

Compatible Pans for Std Cistern and In Wall Cistern:

- Caroma Trident Smartflush; Concorde; Newport & Leda 2000
- Raymor Mini Smartflush
- Posh Smartflush

Requirements:

- The control box and sensors must be mounted within 2 metres of the Cistern valve
- A 220 - 240V 50Hz 10 amp General Purpose Outlet must be supplied within 1 metre of the control box.
- All plumbing must comply with AS/NZS 3500.
- Std. 50 mm Flushpipe 170 mm x 240 mm (Centres)
- Minimum Cistern inlet water pressure 70kPa and Maximum 700kPa.
- Toilet Pan must be installed in accordance with the manufacturer's instructions.

Kit Components

Note: As various combinations of the FlushMaster Toilet Suite are possible, the components listed below are sold in separate kit forms. (components are not sold separately)

Model 43099 - 75mm FlushMaster Cistern Outlet Valve Assy, Fluidmaster Inlet Valve, Std SMC Cistern and 50mm Flush pipe (Pan not supplied)

Model 41096 - 75mm bodied FlushMaster Cistern Outlet Valve Assy and face Plate.

Model 41097 - 75mm FlushMaster Cistern Outlet Valve Assy, Fluidmaster Inlet Valve, In Wall SMC Cistern and 50mm Flush pipe (Pan not supplied).

Installation

Retrofit Installation for SMC Cisterns:

SMC Std. Stainless Cisterns are fitted with Fluidmaster K4 or K5 outlet valves. Once the cisterns have been isolated from the mains and drained, follow the instructions below to fit the new FlushMaster Cistern valve (see Fig.1)

- Remove the top cover and place to one side, for re-use. Note model SCC-1-DFVR is fitted with tamper proof screws and will require a special tool to remove the lid. (Contact the manufacturer for details.)
- Disconnect and remove the push button or chain pull actuator.
- Disconnect and remove the flush pipe from the cistern outlet. Discard any sealing washers.
- Disconnect and remove the K4 or K5 outlet valve.
- Clean the inside of the cistern, ensuring the area around the seal is free of any debris or sediment.
- Fit the isolator sealing washer, then apply some sealing tape to the valve threads.
- Install the FlushMaster valve assembly into the cistern and secure with the backnut.
- Adjust the float valve and overflow pipe to required heights. (see page 5)

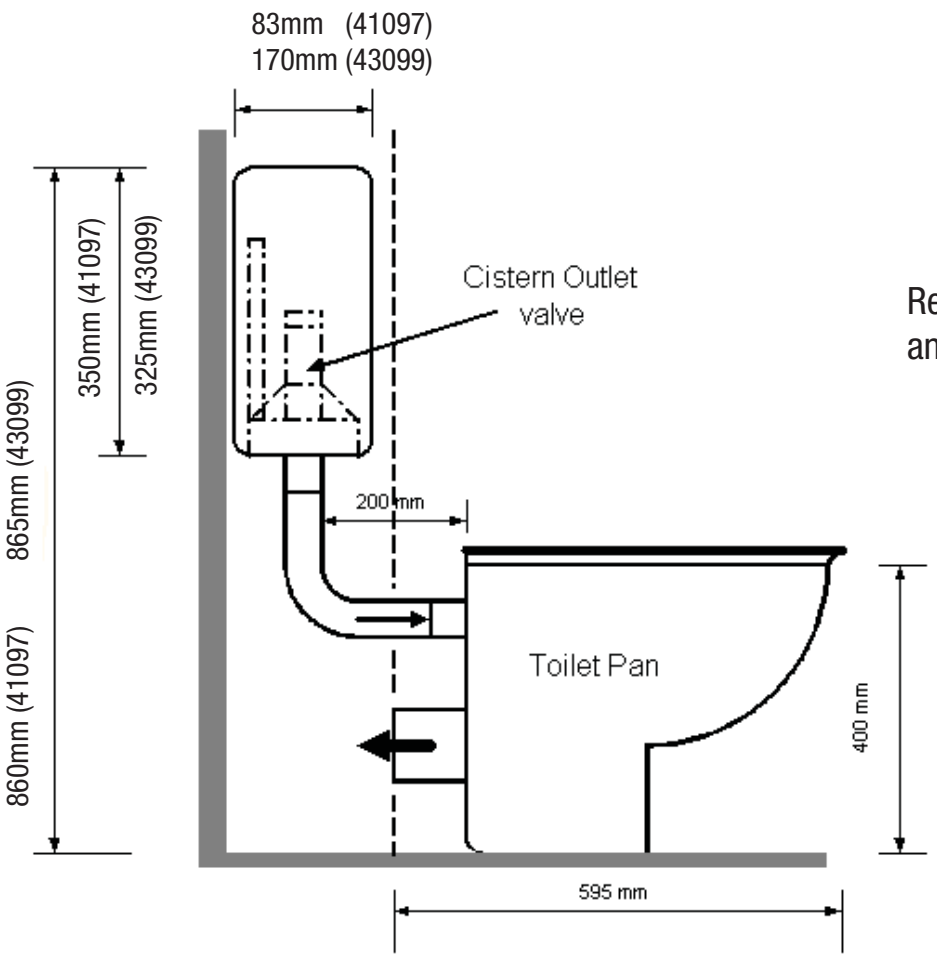


Fig.1

Recommended installation for SMC cisterns and Caroma toilet pan.

Installation

New Installations:

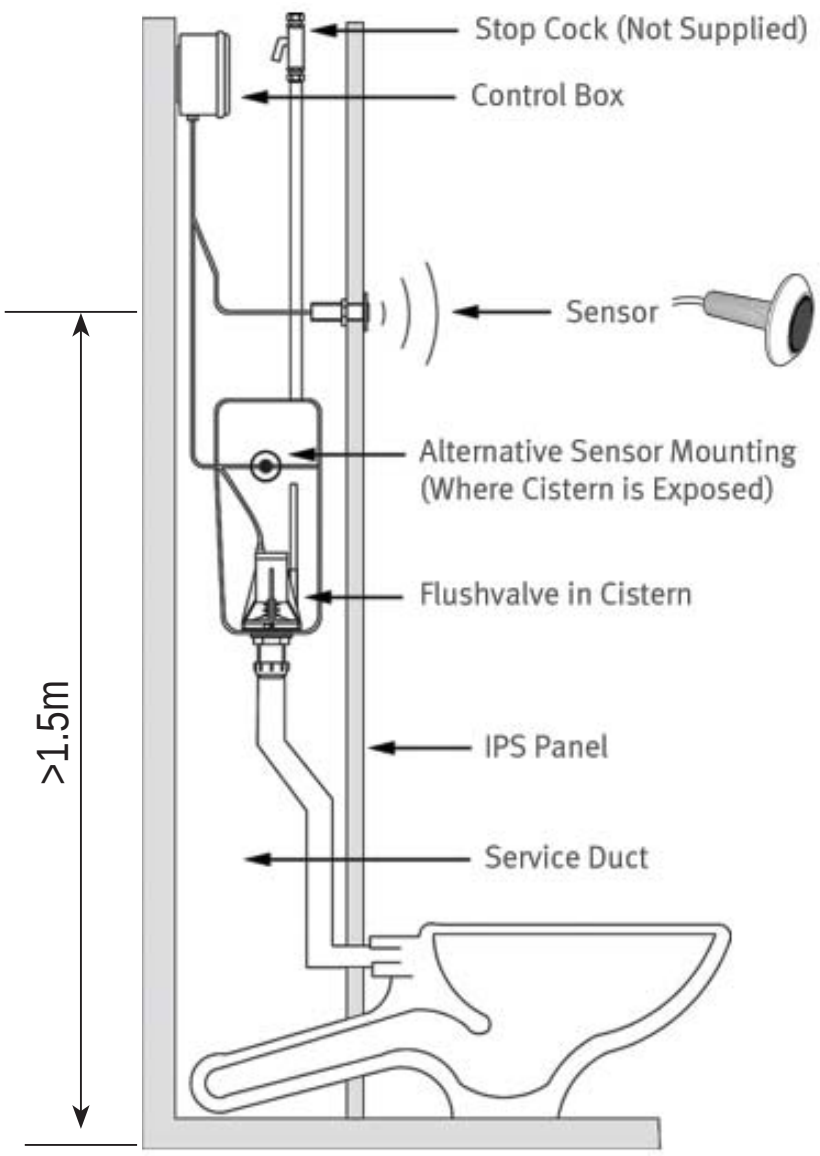
Warning: The overflow pipe must be measured and cut to length before fitting to the valve. The overflow pipe must be installed with a minimum air separation distance of 20 mm below the Inlet valve delivery orifice, in accordance with the backflow requirements of AS/NZS 3500.1. A smear of silicone will seal the pipe in place.

- Fit the overflow pipe to the outlet valve housing and adjust the inlet or float valve. (see page 6 water level)
- Refit the flush pipe using new sealing washers.
- Blank off any of the push button holes. (these may be used for valve cable access).
- Route and secure the valve cable to a convenient position for the control box. i.e. within 2 metres.
- Position the sensors and controller (see Fig.2), then connect the cables as indicated.

NOTE 1: Access must be provided for the cistern and control box for servicing purposes.

NOTE 2: If cistern is installed higher than 1.2m above the pan, the sparge pipe needs to be reduced to ø40mm (not supplied).

Fig.2 Typical single installation.



NOTE: The stripped part of the wires must not touch each other. (see Fig.3)

Sensor fitting:

Care must be taken to ensure ease of use and that general WC cubical occupancy cannot accidently trigger a flush.

The sensors need to be fitted on a vertical surface less than 2 meters away from the control box through a 17-25mm pre-drilled hole, then secured with the nut,washer, bezel and backplate provided.

To avoid false activation, the sensors (when mounted on the wall behind the pan) must be located not less than 1.5 metres above the floor level.

Connect the sensor cable to the control box (fig.5). Please check the cable is clean and dry before connnecting onto the PCB.

Note: Do not attempt to modify or adjust the length of the sensor cable.

Outlet valve electrical connection:

The valve cable should be trimmed to length and connected to the control box (Fig.5). Blue wire to Blue terminal and Brown wire to Brown terminal. Please check the cable is clean and dry before connecting to the PCB.

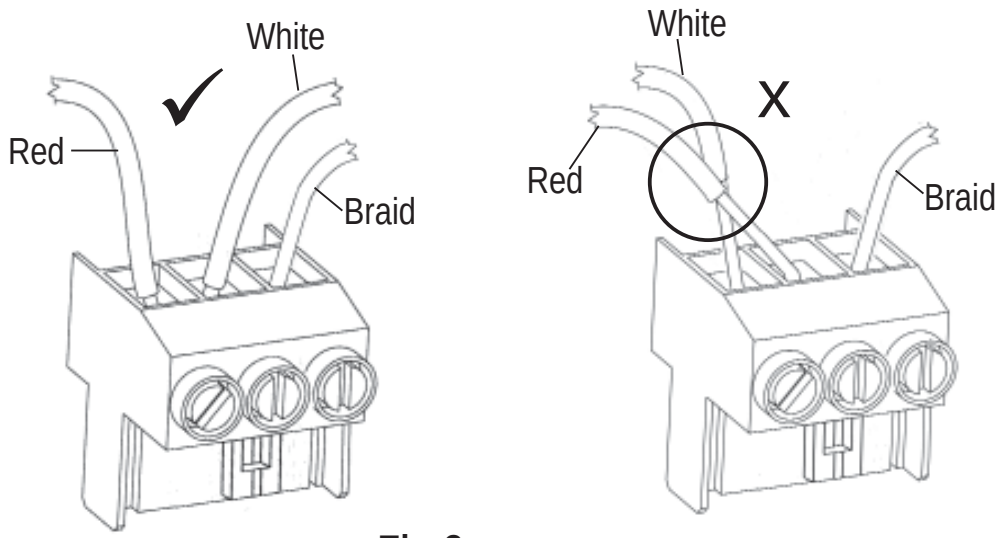


Fig.3

Installation

Multiple Installation:

NOTE: A maximum of 4 control boxes may be fitted to a single 10 amp GPO. (See Fig.4)
On multiple installations an extra cable gland will need to be fitted (drill the box to suit). The 1.5 meter length of 0.75 mm² 3 core flex will need trimming (after plug removal) and must not be extended.

Upon completion ensure all cable glands are tight.

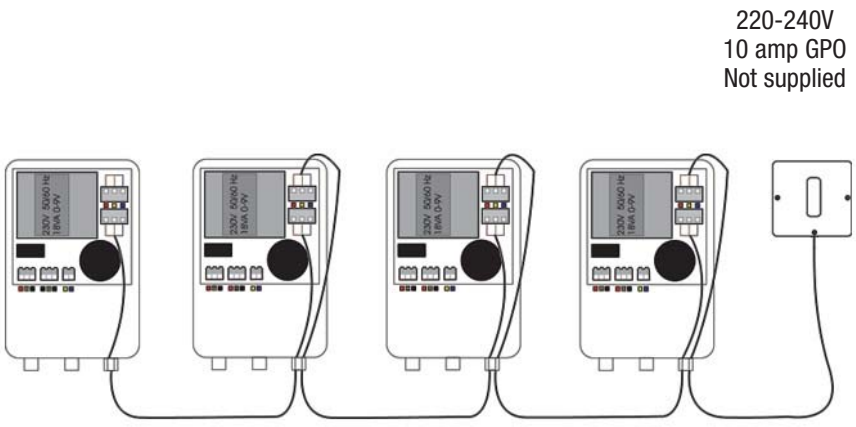


Fig.4

Multiple Installation

Water Level:

Once the Flushvalve is installed re-connect the water supply and ensure that the cistern fills correctly and that there are no leaks.

Maximum water level

Ensure the Maximum water level is below the overflow pipe, otherwise the cistern will fill and empty at the same time. Adjust the float setting accordingly.

It is recommended that the maximum water level is set up now at this stage.

Installation

Minimum water level - IMPORTANT

The minimum water level after flush cycle finishes must be
5mm above the Flushvalve window. It is very important that
the minimum water level does not fall below this level. (see Fig.6)

If the level falls below this point the valve operation will be more audible and you also risk damaging the valve.

The minimum water level is controlled by the flush time on the control system.

It is recommended that tuning of the minimum water level is left until where flush time settings are explained in more detail (see table 1 on page 9).

Check for leaks and secure the system by replacing the cistern lid.

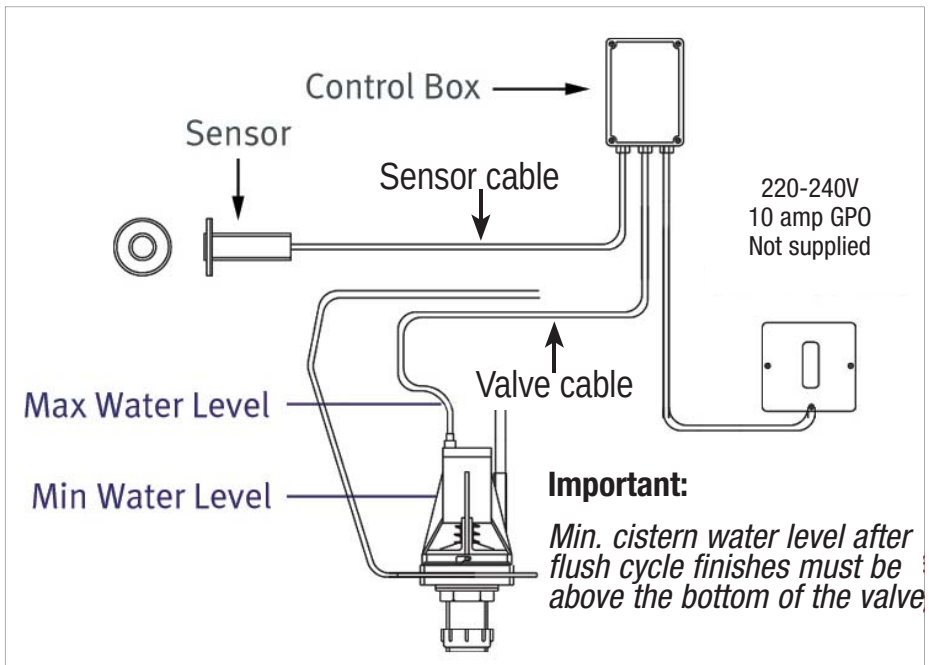


Fig.5 Minimum Water Level

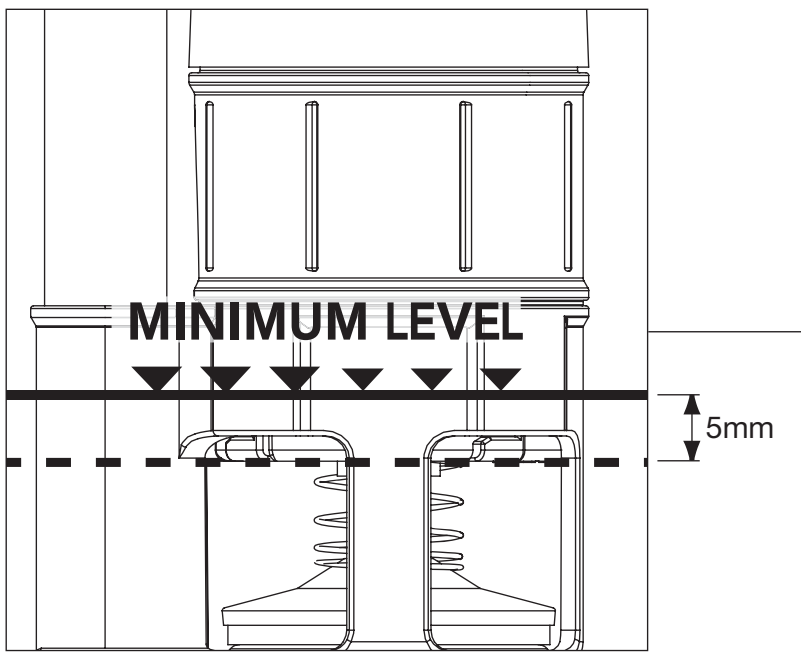


Fig.6

Minimum Water Level

Operation

Control System Board: (models from October 2012 onwards)

Key (Right):

1. Flush time and option setting switch
2. Power socket - In
3. Power socket - Out (For multiple installations)
4. Sensor input - Full flush
5. Sensor input - Half flush
6. Flushvalve input

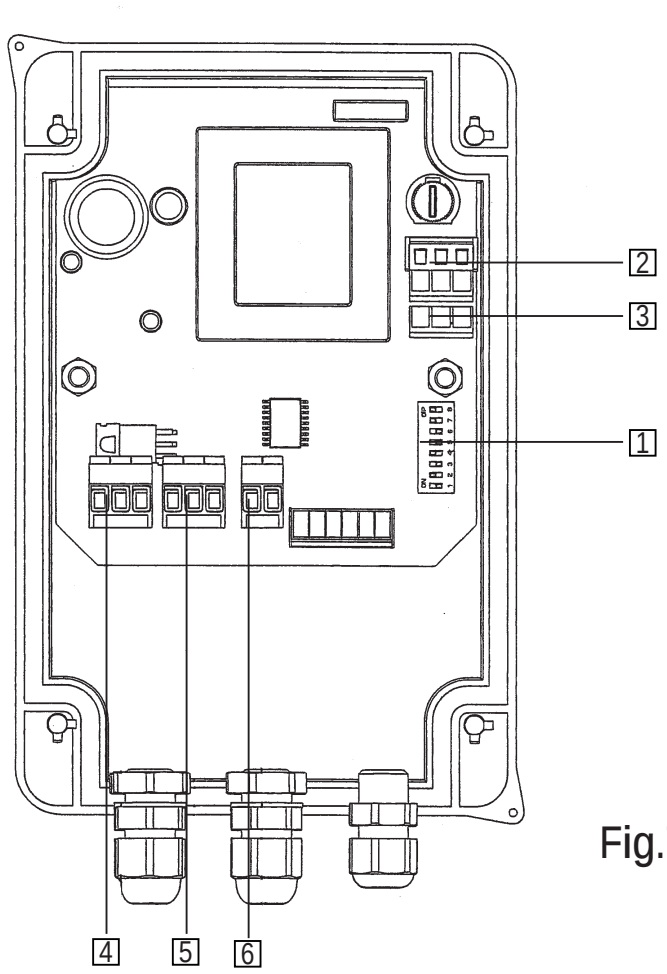
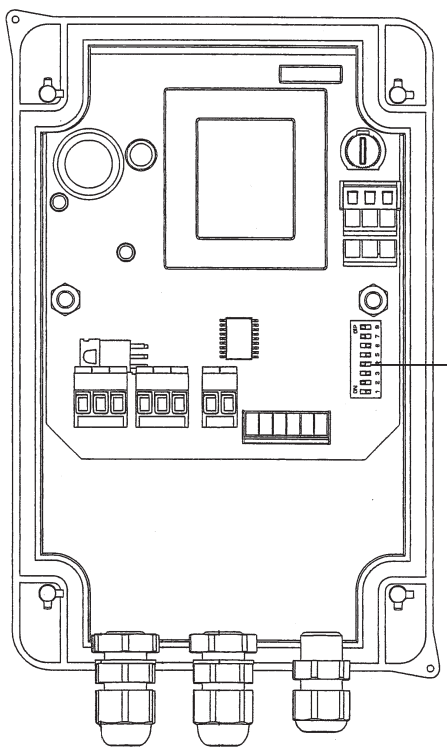


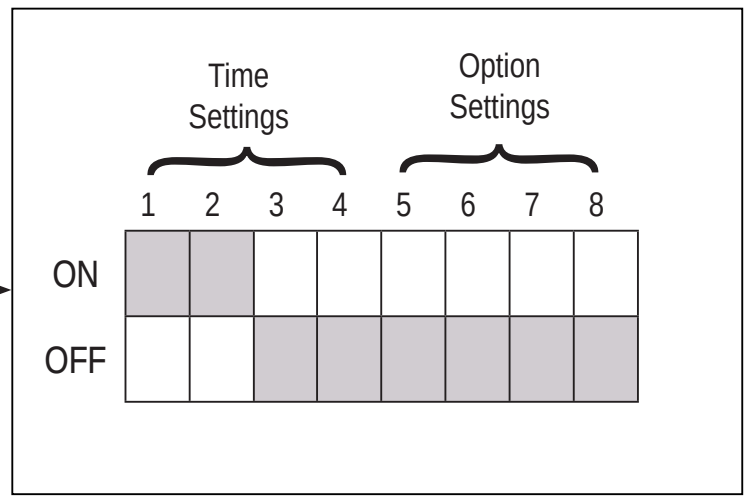
Fig.7

Safety

- **CAUTION!** 220-240V a.c supply in use.
- **NEVER** open the cover with the supply live.
- **DO NOT** extend cables.
- **DO NOT** leave badly fitted cables.
- **DO NOT** leave slack cables in the enclosure.
- **DO NOT** interfere with the mains flex.
- **DO** check all cables and connections.
- **DO** ask for advice if/when necessary.

Fig.8 Dip Switches





Operation

The flushtime is the time set by the switches in the on position i.e. if option 4 is set ON the flushtime is set to approximately 4 seconds (3.96s). This is the default setting. The flushtime time settings can be set from: 0.5 seconds to 6.4 seconds. See the table below for more options. Option 3 and 4 is recommended to suit a 3 and 4 star WELS rated toilet Pans.

Options	Switch 1	Switch 2	Switch 3	Switch 4	Half Flush Seconds	Full Flush Seconds
N/A	Off	Off	Off	Off	Test Settings	
1	On	Off	Off	Off	0.25	0.5
2	Off	On	Off	Off	0.5	1.1
3	Off	Off	On	Off	1.72	2.91
4	Off	Off	Off	On	2	3.96
5	On	On	Off	Off	2.1	4.1
6	On	Off	On	Off	2.23	4.26
7	On	Off	Off	On	2.25	4.65
8	On	On	On	Off	2.3	5.5
9	On	On	Off	On	2.5	6.4

Table.1

- Switch 5 = Adds 0.25 seconds to the valve open time.
- Switch 6 = This enables the purge function. When set to ON the system will purge if no operations have been carried out in the last 24 hours.
- Switch 7 = This enables the lock out function. When set to ON the system will lock out if 4 operations are carried out within 15 minutes.
- Switch 8 = Set to OFF for the standard sensor at all times.

When you first power up the system the Bi-Colour LED (Green - Normal/Red - Charge) will start up green and then change to red for the time set by the dip switches.

The red LED will turn off for a short time and then come on again for the initial charge period. When the red LED turns off for the second time the system is ready for use.

When the red LED goes out the system is active and monitoring the sensor inputs.

Upon a signal from one of the inputs the valve will lift for the time set on the time adjuster, when the valve drops the red LED will come on for the charge period, again indicating that the system is charging.

No operation of the valve is possible while the red LED is ON.

Once the red LED goes out the system is ready for use again.

You have now completed the installation and the Flushvalve WC Flushing System is ready to use. Refer to page 10 if your control box is an earlier model.

Installation

Control System Board: (models prior to October 2012)

When the control box is initially connected both LED's will illuminate. The green LED indicates power-up and the red LED shows the system status.

When power is applied the red LED will flash a number of times. This will equal the setting on the flush time preset switch (1-9). It will remain illuminated for 30 sec and while in this mode the valve cannot be operated.

After each flush the red LED will again illuminate for 30 sec. to indicate the system is resetting itself for the next flush cycle.

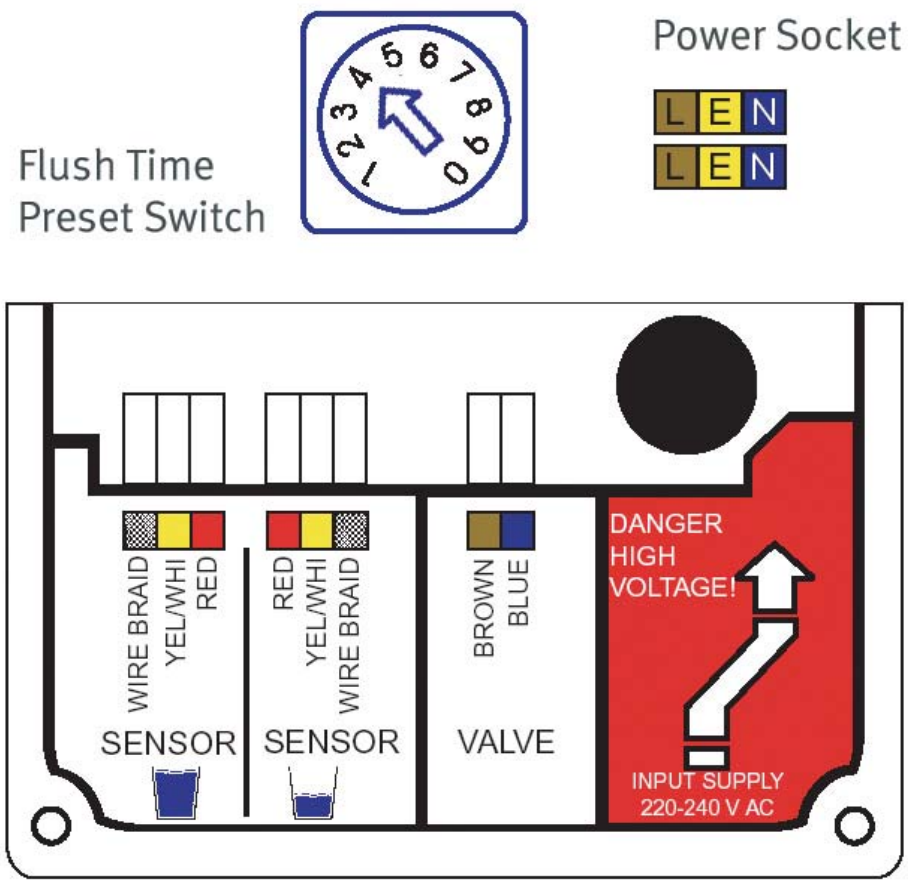
To alter the flush duration, rotate the flush time preset switch to the desired position.

Settings numbered from 1-9 will give progressively increasing flushes up to aprox 9 litres (Full flush). The half flush timing is automatic and can not be adjusted.

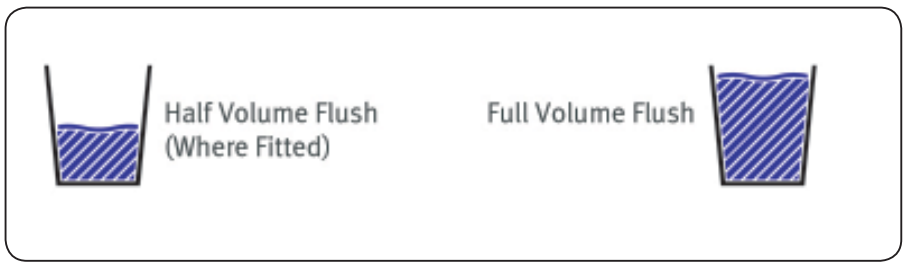
Fill and test the system. Adjust the settings to match the rating on the Pan. Setting No.3 will give a 4.5 / 3 L flush and setting No.4 will give a 6 / 3 L flush.

Note: Never adjust the flush time preset without disconnecting the power first.

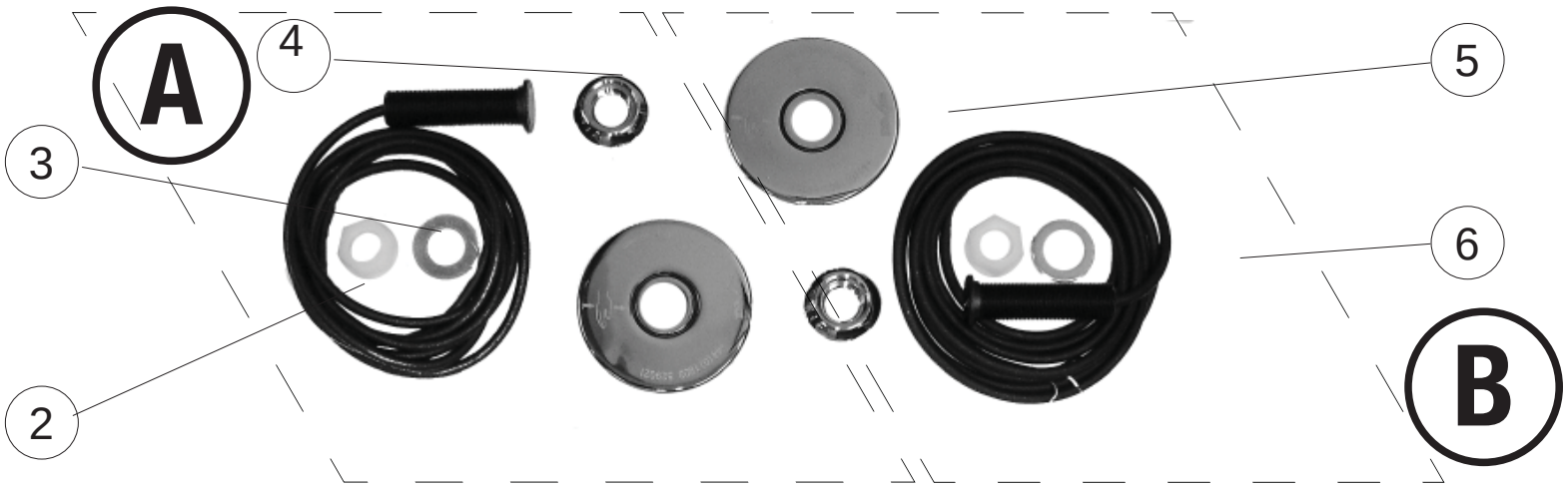
Fig.9
for models prior to October 2012



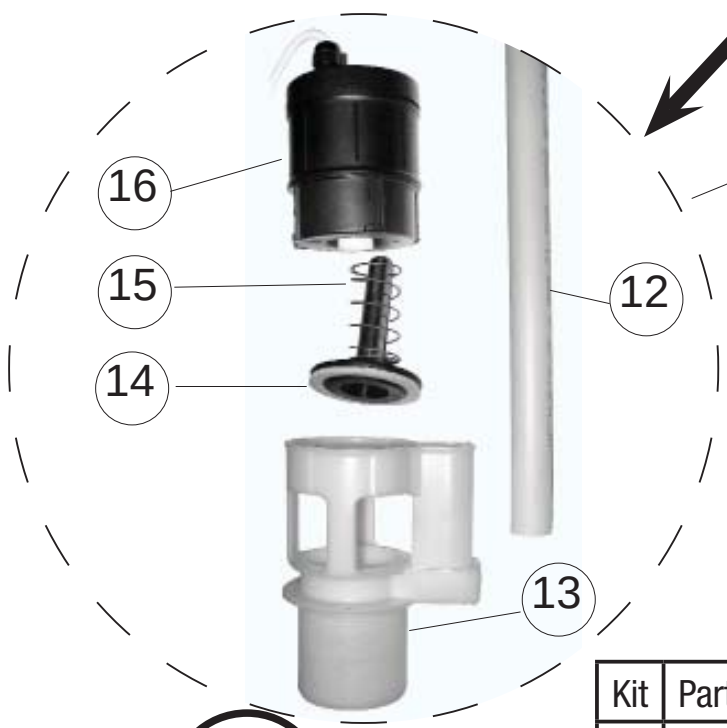
NOTE: The sensor can be installed in either of two positions, or you can fit two sensors allowing the user to benefit from full or half flush volumes.



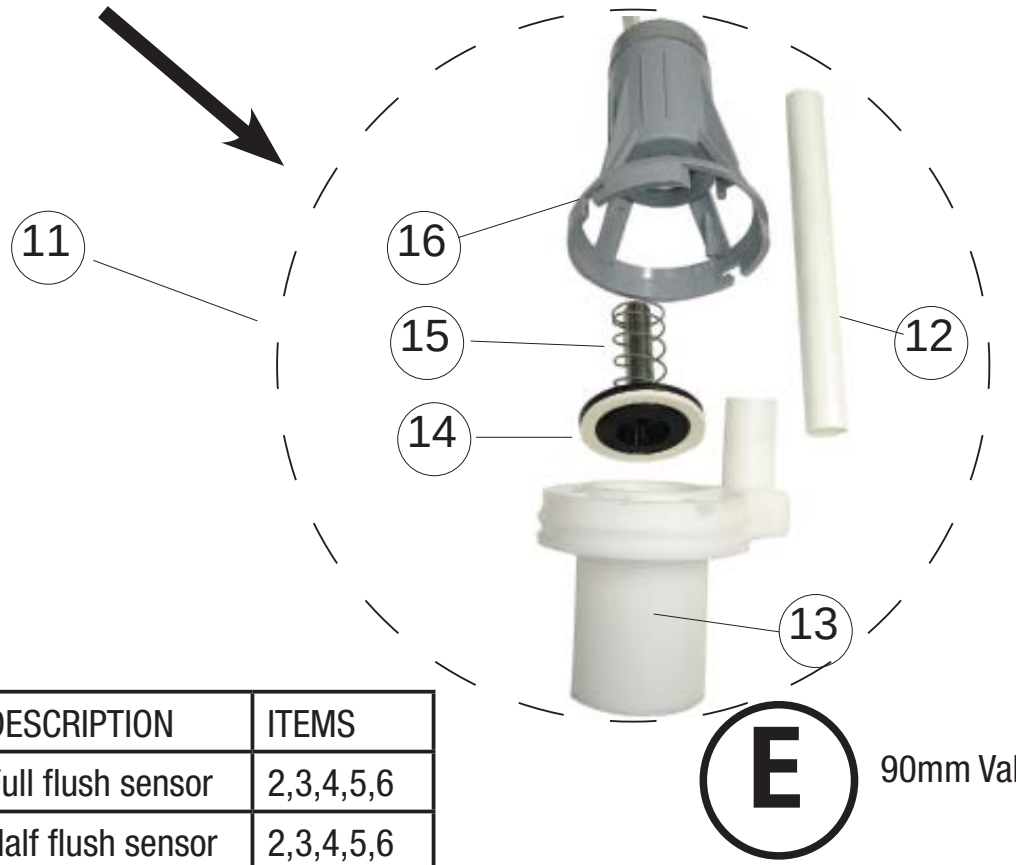
FlushMaster Cistern Valve Components



ITEM	DESCRIPTION
1	Control Box
2	Sensor backnut
3	Sensor washer
4	Sensor Bezel
5	Sensor backplate
6	Sensor & cable
7	Backnut
8	Isolator seal
9	Flushpipe seal
10	Flushpipe seal nut
11	Valve assembly
12	Overflow pipe
13	Valve base
14	Piston
15	Spring
16	Valve upper body
17.a	90457 - Fuel 100mA (new model)
17.b	93112 - Fuse 500mA (old model)



75mm Valve



90mm Valve

Kit	Part No.	DESCRIPTION	ITEMS
A	93106	Full flush sensor	2,3,4,5,6
B	93107	Half flush sensor	2,3,4,5,6
C	98108	Control box	1
D	93111	Flush pipe assy.	7,8,9,10,
E	93109	90mm Valve assy.	11
F	93110	75mm Valve assy.	11

End of Life Disposal

In order to help preserve our environment we ask that you dispose of this product correctly. Please contact your local city council for collection centre details

Contact Details

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