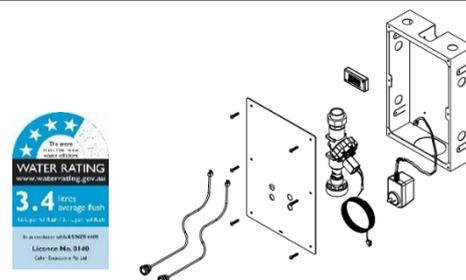


Flowmatic® Ligature Resistant Concealed Inwall Dual Flush Pan Assembly With Wall Box – PB2

PRODUCT CODES

- 122.65.13.10



SPECIFICATIONS

- Flowmatic® Inwall Dual Flush Assembly provides a complete Ligature and Vandal resistant solution. The unique electronic valve assembly provides precise delivery of water and is specifically designed for high risk & secure environments and public amenities.
- Stainless steel face plate with piezo activation buttons. It is designed to be mounted on the box, providing a clean, flush appearance from the wall.
- Watermarked, heavy duty, corrosion and UV resistant PVC construction solenoid control valve.
- Includes Flowmatic® PB2 electronic controller, a 24V AC control system for connection of flush buttons and solenoid (single solenoid for flushing units). The controller is pre-programmed and ready for use, delivering controlled flush timing to meet WELS performance requirements. Operating parameters can be adjusted, if required, via Bluetooth using a compatible Android or iOS device.

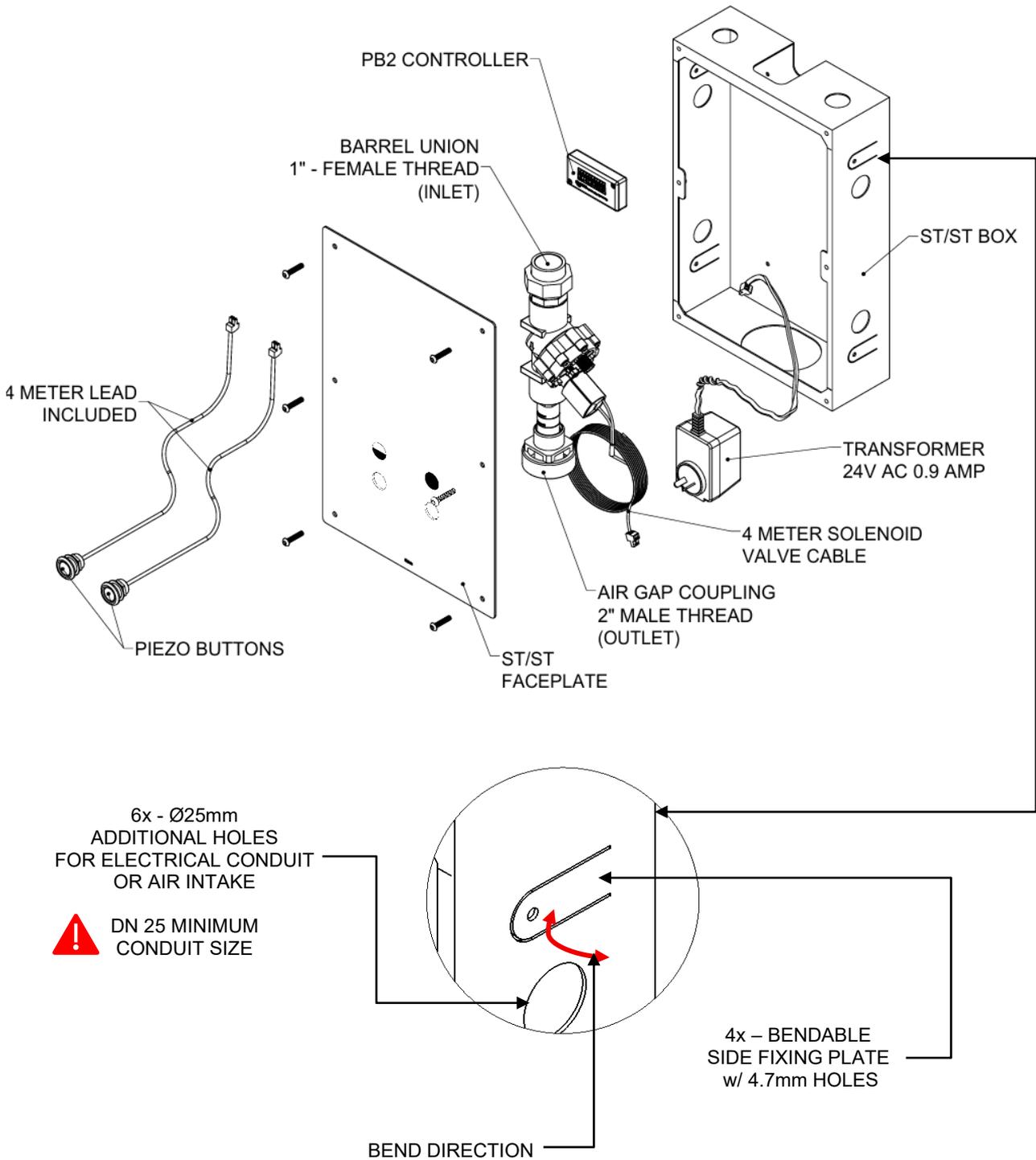
WARNINGS: Special attentions to be paid on notes, photos, images, or drawings of assembly steps marked with the warning symbol.



TECHNICAL DATA

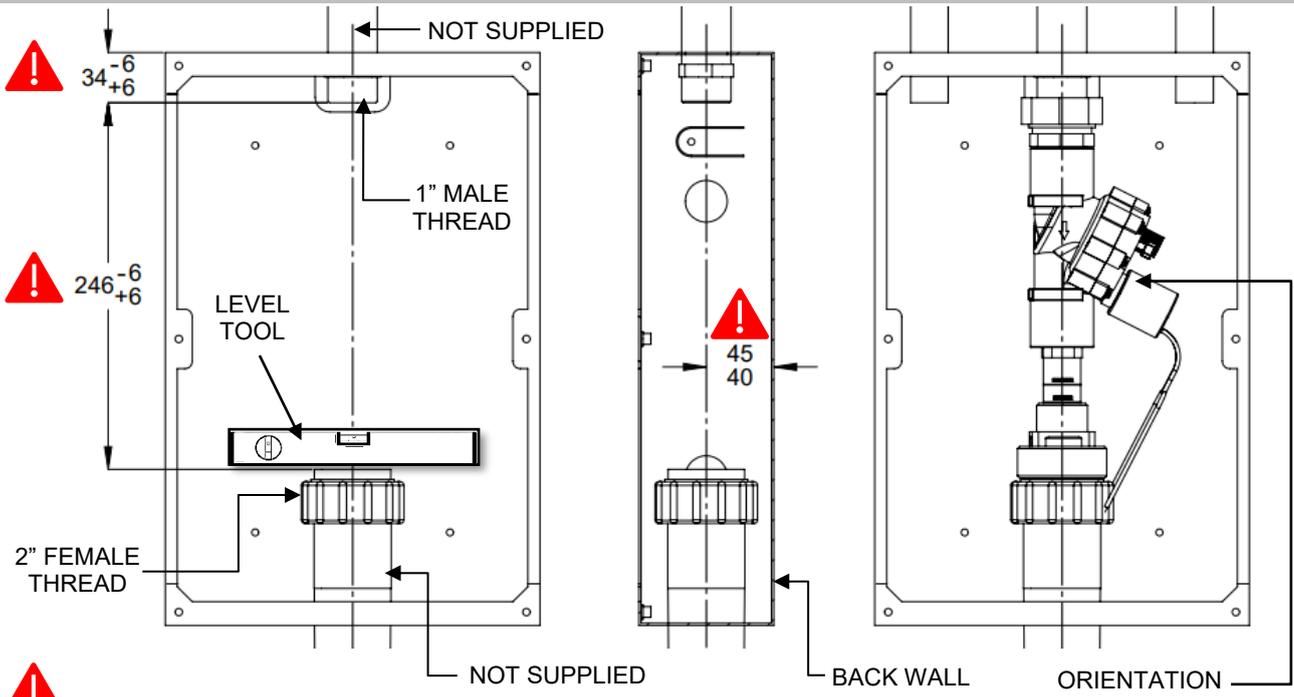
Power Supply	Type	Transformer		
	Input	230-240V – 50Hz		
	Output	24V AC 0.9AMPS 22VA		
	Cable length	3m		
Inwall Flush Assembly	Input Voltage	24V AC – 60Hz		
	Cable length	4m		
	Connection	Inlet	1" BSP – Female (Barrel Union)	
		Outlet	2" BSP - Male	
	Pressure Range (kPa)	Min	140	
		Max	500	
Temperature (°C)	Min	2		
	Max	60		
Activation	Type	IP68 24V		
	Activation	Piezo Button		
	Cable length	4m		
Finish	Face plate	Brushed Stainless Steel		
Controller	Input Voltage	24V AC		
	Program type	Flowmatic		
	Connections	2 pin connectors		
- The minimum pipe size serving the Inwall flush assembly shall be DN 25.				
NOTE: Galvin Engineering continually strive to improve their products. Specifications may change without notice.				

ASSEMBLY VIEWS

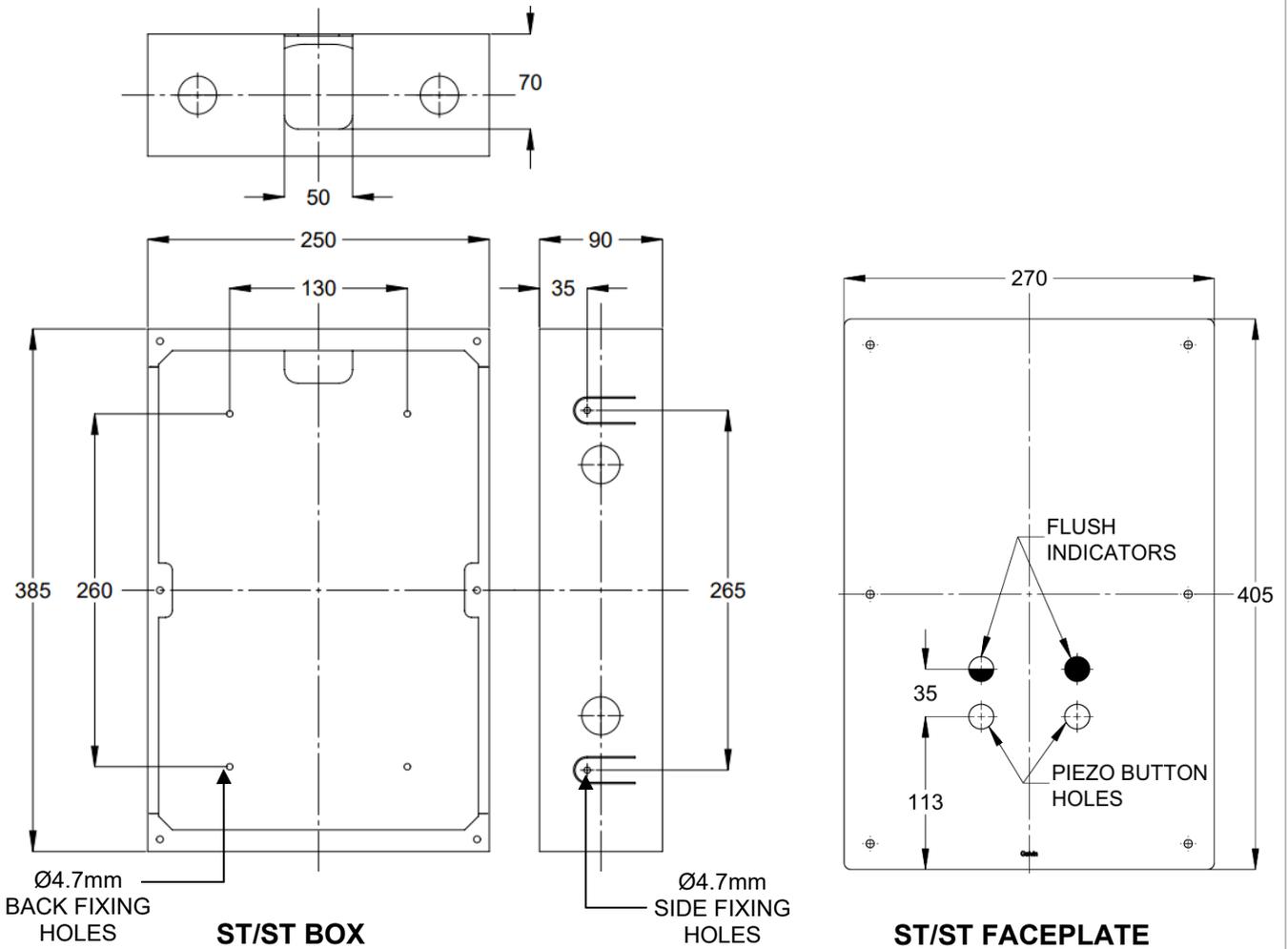


Note: Additional holes for electrical conduit or air intake are provided. The unit must be connected to at least one electrical conduit and at least one air intake. The installer should determine which intakes to use based on the installation requirements.

DIMENSION AND ORIENTATIONS



Note: Maintain the clearance along the inlet axis (inward/outward direction) as shown in the diagram. This ensures the faceplate fits correctly and allows access for future maintenance.



PRE-INSTALLATION

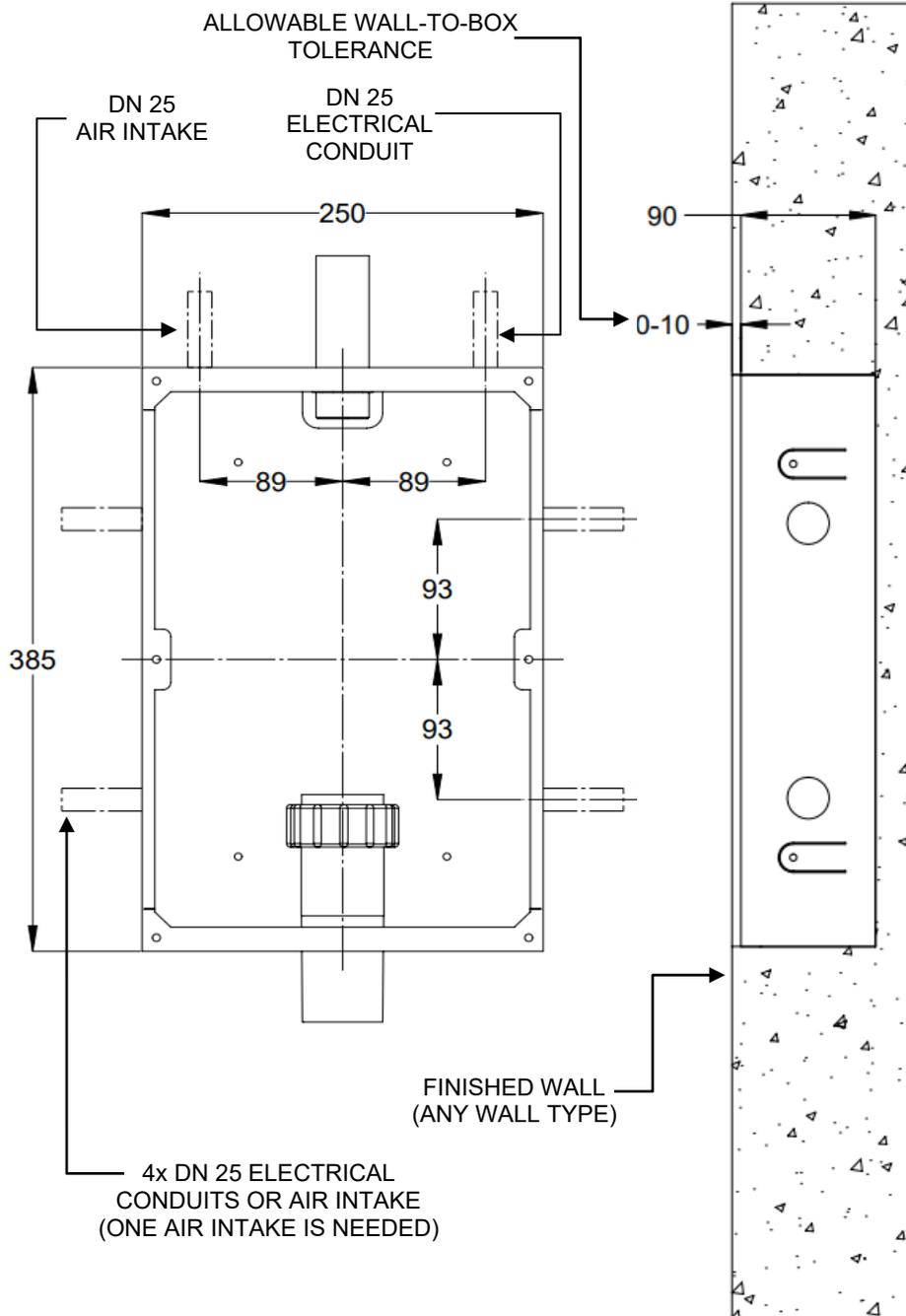
IMPORTANT:

- **INSTALLATION COMPLIANCE:** Galvin Engineering products must be installed in accordance with these installation instructions and in accordance with AS/NZS 3500, the PCA and your local regulatory requirements. Water and/or electrical supply conditions must also comply to the applicable national and/or state standards. Failing to comply with these provisions shall void the product warranty and may affect the performance of the product (Refer supplied installation compliance sheet with the product).
- Pipe sizing shall comply with AS/NZS 3500.1 and shall be hydraulically calculated.
- Before proceeding with installation first check the solenoid valve supplied is suitable for the site water pressure and conditions. If your water pressure is outside the stated range, please contact Galvin Engineering.
- Ensure all supply lines are flushed thoroughly to remove debris prior to the installation of this product.
- Pressure reduction valve or water hammer device may be required to comply with recommended maximum supply pressure.
- All wiring installed within wall cavities must be run in a conduit to allow for future removal or replacement. A minimum conduit size of 15 mm is recommended for routing the leads. The piezo buttons and the solenoid are each supplied with a 4-meter lead. If additional length is required, leads up to 5m can be ordered.
- Whilst our product designs consider a broad range of installation types and surfaces, it is important that surfaces which fixtures are mounted to are flat and free from defects. This is especially important for our Flowmatic® Electronic range where special attention is required to minimise ligature points and areas for concealment of contraband. In addition to ensuring the products are fitted securely and in accordance with the following instructions, consideration shall be given to the use of non-pick mastics such as BASF Sonolastic “Ultra” to ensure a high quality and safe installation.
- Most installation problems are due to damage to the unit during installation or the selection of an inappropriate installation location. Select the location carefully and take care with the installation, consider ease of operation for the end user.

GENERAL INSTALLATION REQUIREMENTS

- Do not cut the wires or extend the existing leads without using a correct lead extension from Galvin Engineering, as this will void warranty.
- Suitable access for the service of all components must be provided.
- It is recommended that acoustic dampening products or materials be used in facilities where increased levels of sound protection are required. A water hammer arrestor may also be required.
- The number of valves and simultaneous demand must be considered when sizing pipes. If other fixtures are connected to the supply line, calculations of flow rates and pressures must be undertaken to ensure adequate water supply.
- Limit the number of changes of directions in pipe work. This will result in less friction loss, better valve performance and reduce potential water cavitation noise.
- We recommended fitting isolating valves before solenoid for easy servicing.
- Do not apply heat near this product during connecting water line. Heat generated by soldering could damage plastic or electrical parts and seals and will void the warranty.
- For personal installation assistance and spare parts, please call our head office on 1300 514 074 and speak to our customer service staff.

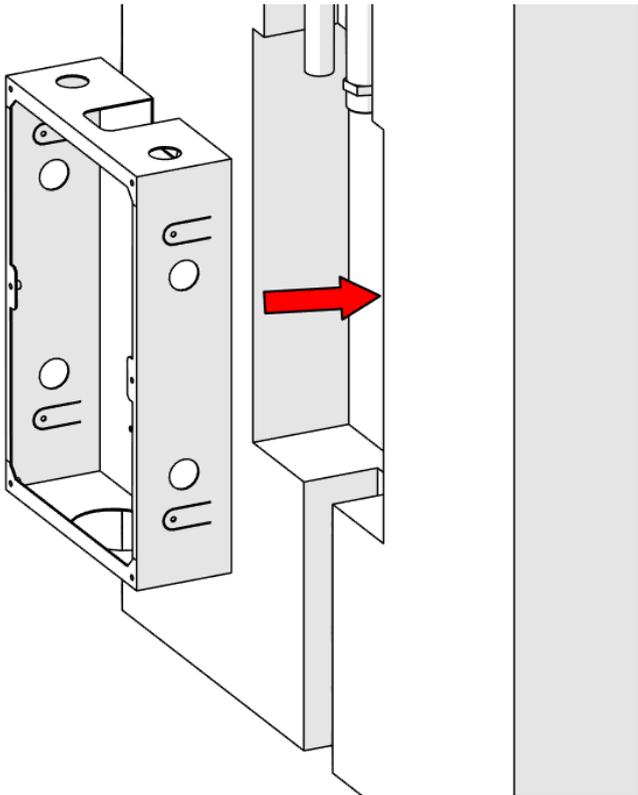
WALL PREPARATION DETAILS



WALL OPENING DETAILS:

The wall opening shall be sized to suit the box dimensions of 250 mm × 385 mm × 90 mm. The finished wall opening and box shall be fully concealed by the faceplate once installed.

INSTALLATION

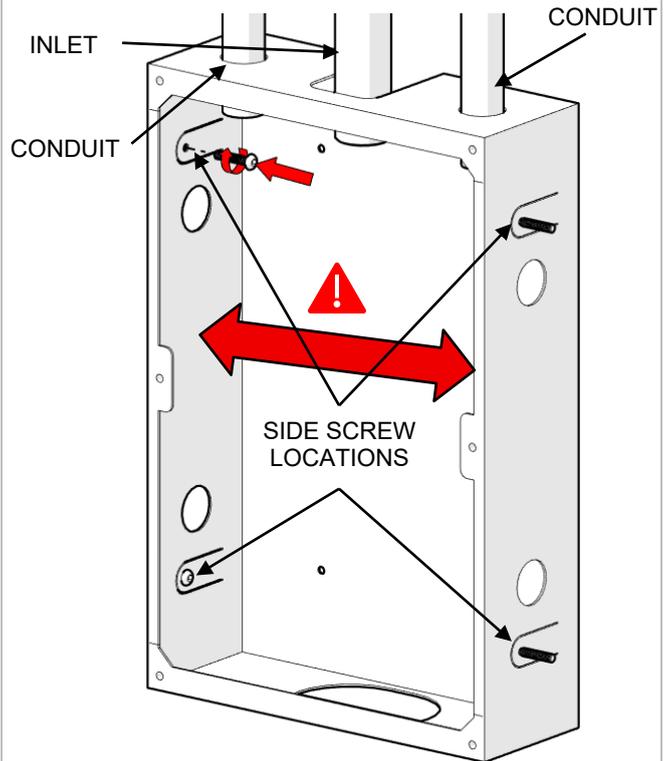


1. Install the box into the wall opening

- Place the box into the wall opening, making sure it fits properly. If the inlet pipe and conduits are being installed later, ensure the holes remain accessible.



Note: *The wall shown is just for illustration; the Inwall flush assembly can be installed in any wall type.*



2. Fix the box in place (Fixing screws and plugs are not provided)

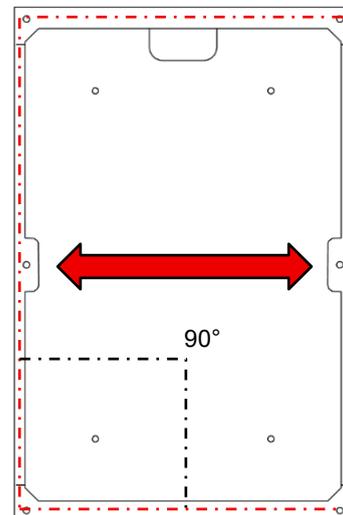
- Secure the box with screws. Bend side fixing plate if needed to reach screw fixing point.
- After securing the box and providing fill or support around it (e.g., mortar, battens, or other suitable backing), ensure the box remains properly aligned and that the face or frame does not deform while the fill or support sets.

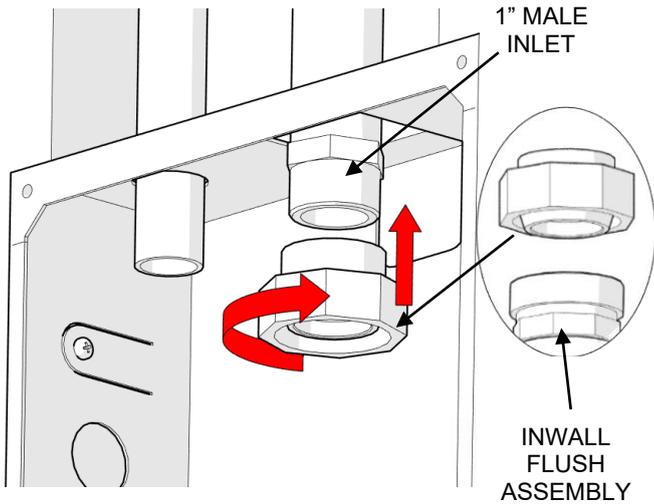


Note: *Use back fixings only if needed.*



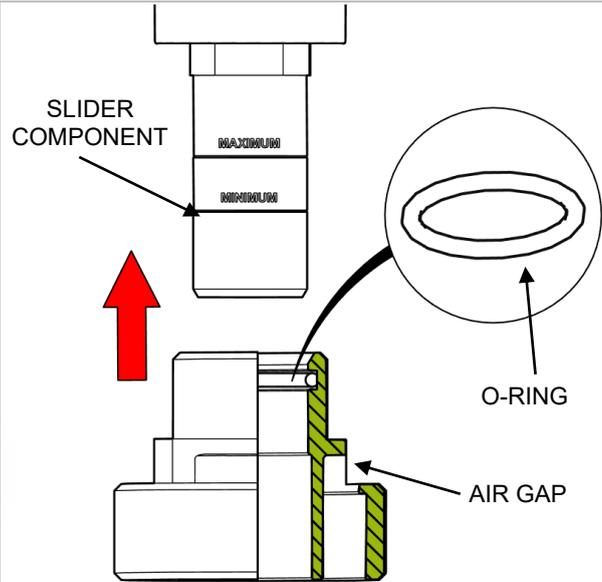
Note: *Ensure the box side wall maintains a 90° angle and reinforce it during installation if necessary.*





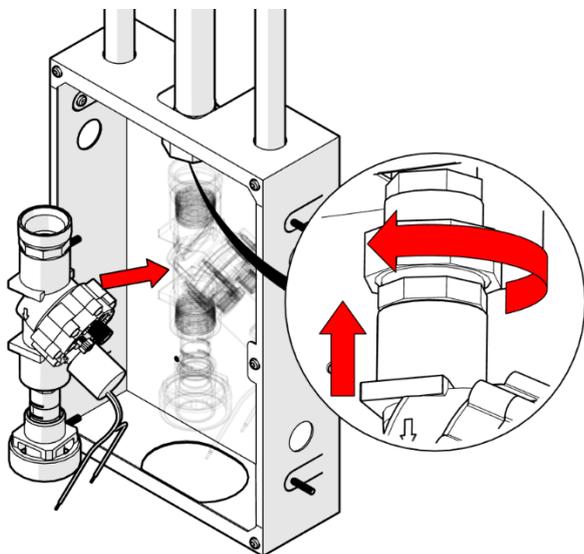
3. Barrel union – Nut and Female fitting

- Remove the female and nut component of the barrel union from the Inwall flush assembly.
- Install the female threaded component onto the inlet, applying thread sealing tape to the male threads. Tighten securely to achieve a fully watertight, leak-free connection.



4. Fit Air Gap to Inwall Flush Assembly

- Grease the O-ring with water-compatible, standards-compliant lubricant before installation.
- Install and inspect the O-ring. Replace it if damaged.
- Fit and slide up the air gap component upward to the minimum marker of slider to create clearance.

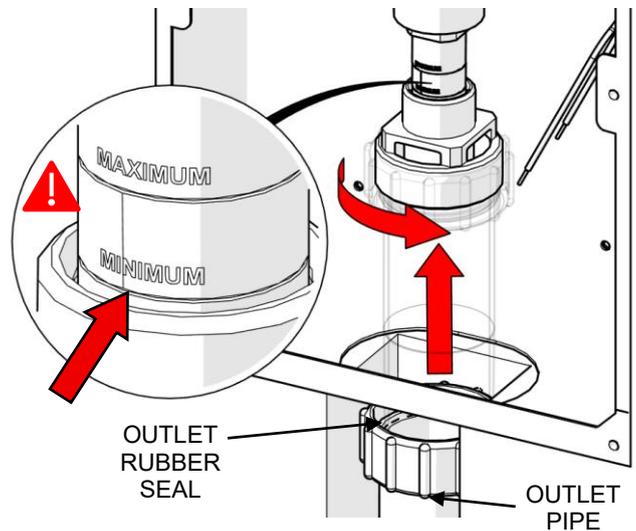


5. Install Inwall Flush Assembly

- Position the Inwall flush assembly as shown and attach it using the barrel union connections. Tighten securely to ensure joint is watertight.

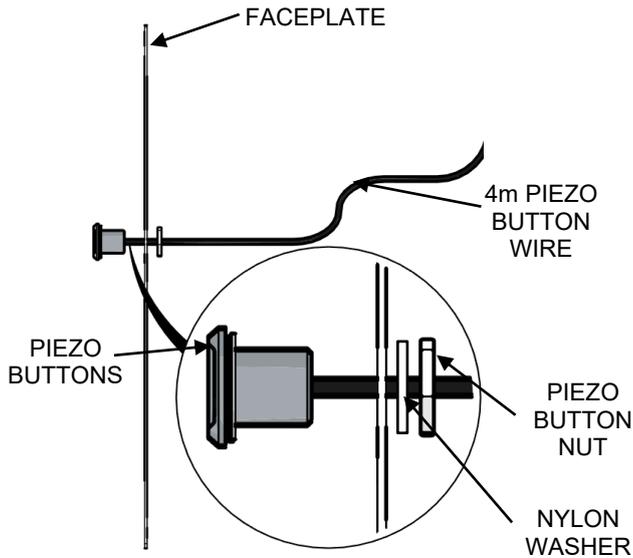


Note: Make sure solenoid valve is orientated such that the electrical wiring is not twisted and connections are easily accessible.



6. Install Outlet Pipe (Outlet pipe is not provided)

- Ensure the top of the air gap component is aligned with the slider's minimum marking position
- Install outlet extension pipe from the bottom of the box and slide upward until the the rubber seal touches the bottom of the air gap.
- Confirm the assembly is level, then tighten the outlet pipe nut, ensuring proper orientation and alignment.

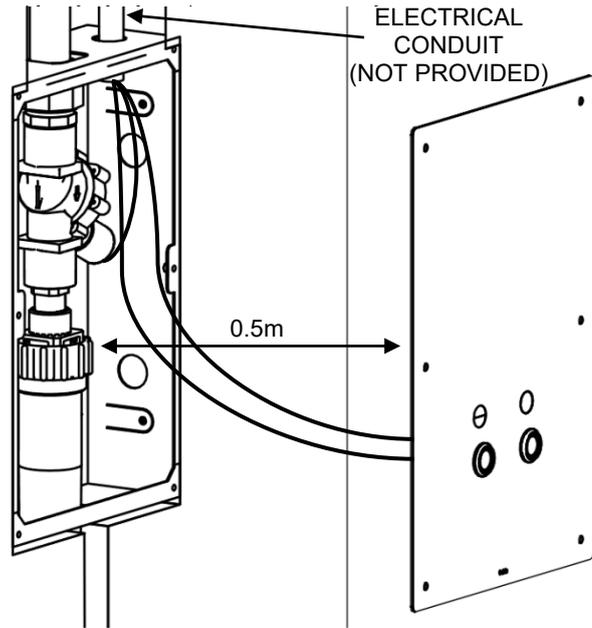


7. Piezo Button Assembly

- Install the piezo buttons onto the faceplate and secure it with the nut as required.

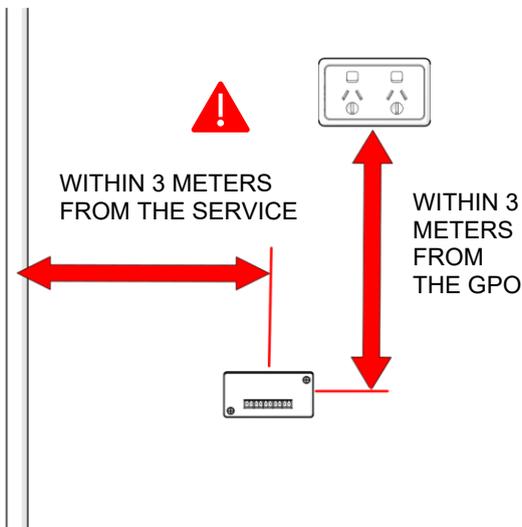
! *Note: Ensure every connection is properly labeled before installation.*

! *Note: Avoid overtightening screws or applying excessive force, as this can damage threads, connectors, or components.*



8. Fix Conduit and Wire Routing

- Feed wires through the electrical conduit, ensuring they are routed smoothly without kinks or damage.
- It is recommended to leave at least 0.5 meters of slack for the piezo button wires inside the box to prevent accidental pulling and to allow sufficient recess for faceplate removal.

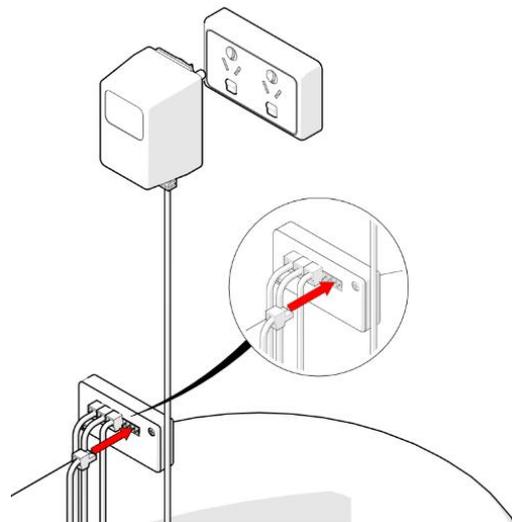


9. Mount control module

- Attach the control module to a flat surface away from any possible splashing or moisture, ensuring it is mounted within 3 meters of the service and 3 meters of the GPO.

! *Note: All electrical components should be protected from contact with water or excessive heat and installed in accordance with local regulations.*

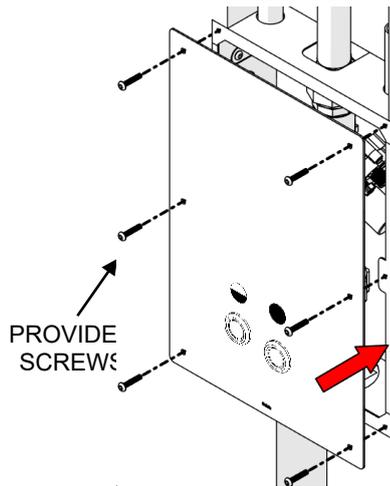
! *Note: Flowmatic Control Module is programmed as per standard settings for a mains flushing system.*



10. Connect control module

- Connect the buttons leads to the input side of the control module and the solenoid lead to the output side.
- **If extension leads are required, please contact Galvin Engineering.**

! *Note: Do not cut the leads. If the leads are too long, it is recommended that any excess is coiled up and clipped to the wall.*

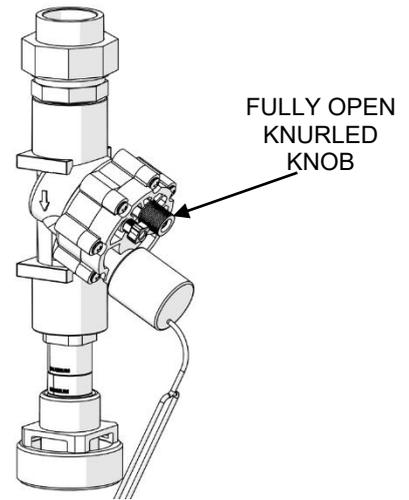


11. Mount Face Plate

- Use the screws provided to attach the faceplate to the box. Begin by loosely inserting the screws to allow for adjustments. Once all are in place and aligned, fully tighten them to secure the faceplate.



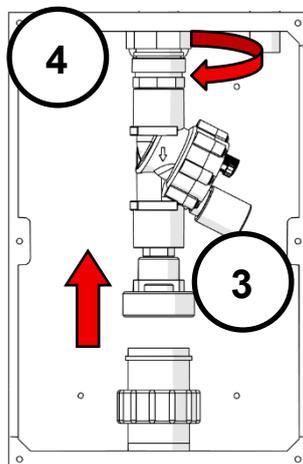
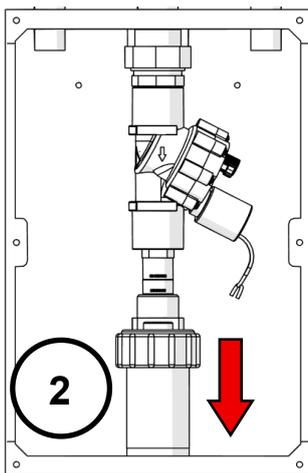
Note: Ensure that no wires are left loose and that all buttons, switches, or components are correctly positioned and functional.



12. Flush Time Settings

- To comply with WELS certification, ensure the flush time is correct and the flow rate is set to **350 kPa**, with **Full Flush at 1.5 L/s for 1.9 seconds** and **Half Flush at 1.5 L/s for 1.3 seconds**.

INWALL FLUSH DISASSEMBLY



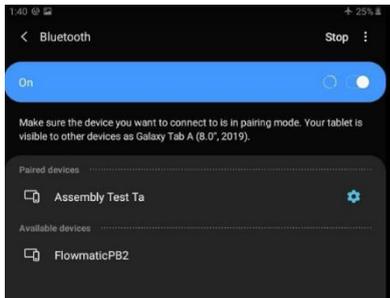
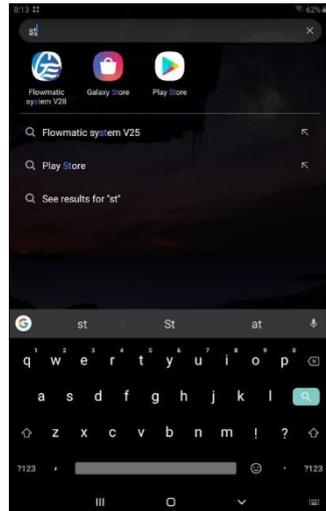
1. Isolate the power supply and disconnect the solenoid cable from the controller
2. Unscrew the outlet nut to disconnect from the air gap component.
3. Slide up the air gap component to the highest possible position to provide adequate clearance from the outlet pipe.
4. Unscrew the barrel union nut and carefully remove the Inwall flush assembly.
5. Reinstall the components by reversing the disassembly steps, ensuring all connections are securely tightened and properly aligned.
6. Connect the solenoid cable to the controller, then restore the power supply.

CONTROL MODULE PROGRAM MODIFICATION

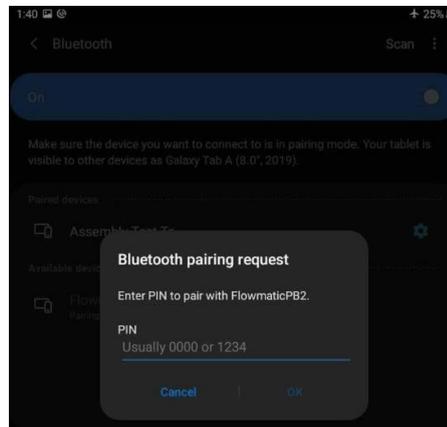
Required to make changes to the controller settings :



- Android or Apple device (e.g. smartphone, tablet).
- Installed from PlayStore 'Flowmatic system' software or 'Flowmatic Companion' from Apple Store.



- 1. Establish Bluetooth connection**
 - Go to the Bluetooth settings on your device then scan for devices. Generally, when scanning the first thing to come up in available devices will be a Mac address that looks like this example (AB:EC:69:57:34:02). This will eventually change to the name of the device, which is from factory set as 'FlowmaticPB2' (This later can be changed to a custom name in the app). Select this device.

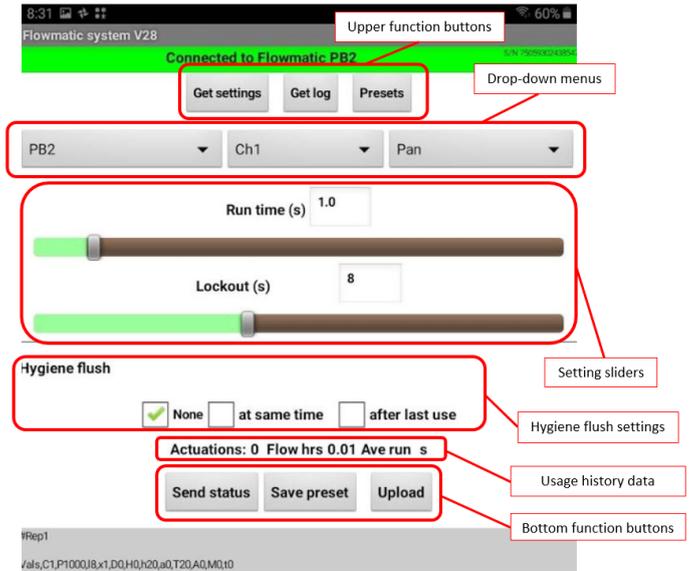


- 2. Entering the pin**
 - The device will ask for a pin, which from factory is '1234'. Enter this in. (This pin can be changed later in the app.). Your device is now connected to the controller, and is ready to be adjusted from the 'Flowmatic system' app.



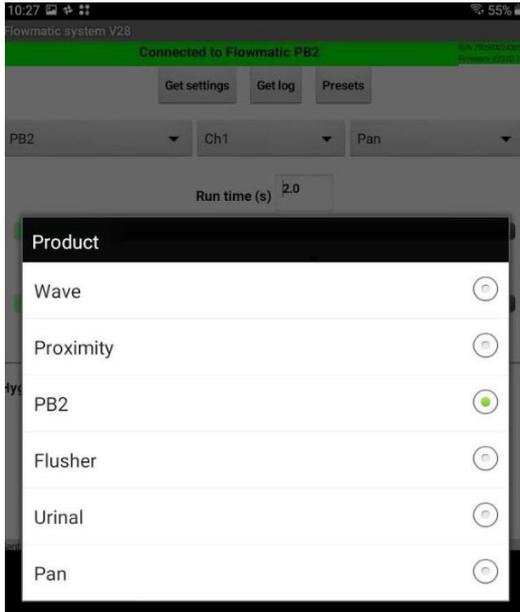
3. Changing controllers settings

- Open the Flowmatic system' app. The device will appear on the screen. with Mac Address first and then controller name e.g. 'AB:EC:69:57:34:02 FlowmaticPB2'.
- Select the Flowmatic PB2, this will then update the controllers time clock and then open the setting screen.

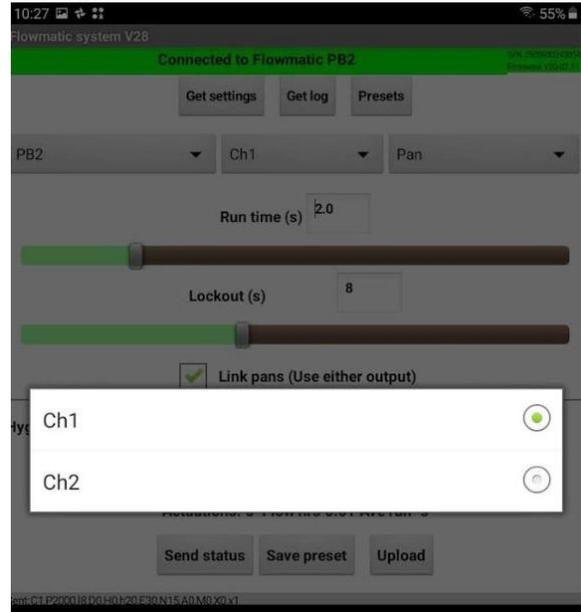


4. Setting screen overview.

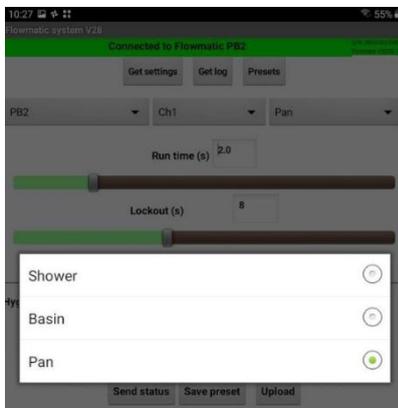
- **Upper function buttons.** By pressing the 'Get settings' button the currently stored in controller's internal memory parameters will be downloaded to the app. The 'Get log' button will pop up the log data screen. The 'Presets' button will list all saved presets.
- **Drop-Down menus.** First menu from left is to select the type of controller the app is connected to. The second menu is to select which 'channel' is going to have parameters changed. The third menu is to declare what is the controlled feature designed for.'
- **Setting sliders.** Depending on the selected controlled feature there will appear one, two or three setting sliders.
- **Hygiene flush setting** menu allows to set the time and intervals of hygiene flush.
- **Bottom function buttons** are to be used to manage the controller internal memory.



- 5. Type of controller (left drop-down menu)**
- For the PB2 controller only the PB2 selection is correct. Please do not change the selection for the PB2 controller



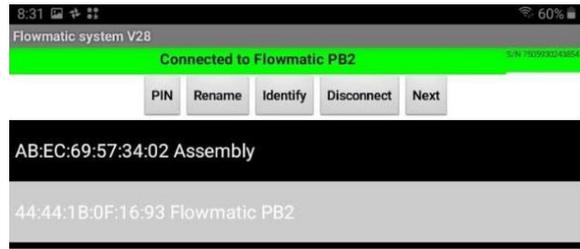
- 6. Channel select (middle drop-down menu)**
- The PB2 controller has built in two channels. They may be controlled independently or one of the channels to be used as half flush and second channel as full flush for a pan.
 - **Note:** For IOS devices, channels may be changed by pressing and scrolling up "CH1" on the screen.



- 7. Designated feature drop-down menu**
- The PB2 controller can be used for showers, basins and pans. Depend on the feature selection setting slides will appear. (e.g. there is only 'Run' time to be set for basin, 'Run' and 'Lockout' times for pans and there is 'Shower end warning' time for shower)



- 8. Settings for pans.**
- The default configuration for a pan is two buttons and one or two solenoids. By marking the 'Link pans' the outputs will work simultaneously.
 - Channel 1 is to be used for the half flush and the channel 2 for full flush.
 - Set the required time and Hygiene flush for half flush (channel 1) and press 'Upload'.
 - Similarly set the required time and Hygiene flush for full flush (channel 2) and press 'Upload'.



9. Connection menu.

- By pressing the back arrow on Android device, the connection screen will pop up.
- The buttons allow to rename the controller, set new PIN, disconnect or go to setting screen 'Next'.

TROUBLESHOOTING		
PROBLEM	CAUSE	RECTIFICATION
Leakage	AT INLET: The connection was either poorly sealed or not fully tightened	Disassemble the connection, clean all sealing surfaces, re-apply sealing method, and securely tighten the connection to ensure it is fully water-tight.
	OUTLET: Damaged rubber seal	Remove the damaged outlet rubber seal and install a new correctly sized one, making sure it sits properly without twisting or pinching.
No water flow	Water switched off or lines are blocked.	Turn on water, check for flow.
	No power to unit	Check power to control unit.
	Incorrect electrical connections	Refer to page 8, step 7 for solenoid wiring, and consult the controller installation instructions for the correct controller connection details.
	Damaged wiring of inwall flush assembly	Inspect the leads, replace any damaged wiring, and test for proper operation.
	Damaged wiring of piezo buttons	Remove the faulty piezo button and replace it with a new unit.
	Faulty solenoid valve	Replace the solenoid valve if it fails to operate.
Continuous water flow	Debris or obstruction in solenoid valve	Remove the Inwall flush assembly and clear any debris or obstructions, referring to the maintenance instructions for the proper steps.
Flush not efficient	Dynamic pressure too low	Ensure the dynamic pressure is at least 350 kPa at 1.5 L/s (90 L/min); if below, check the water supply and system components, then adjust timing settings as needed.
	Solenoid valve is not fully opened	Verify that the solenoid valve is fully opened using the knurled knob.
	Flush times set incorrectly	Reprogram the flush timing to the specified settings.

MAINTENANCE INSTRUCTIONS

Inwall Flush Assembly:

1. Turn off the water supply, press the buttons to drain as much water from the system as possible, and then switch off the power at the GPO.
2. The Inwall flush assembly can be removed and checked for debris and cleaned to avoid potential damage to the diaphragm. Follow Inwall Flush disassembly instructions to remove.
3. Service or replace the solenoid and re-install into the line.

Buttons:

1. These items are non-serviceable products. If damaged, they must be replaced.
If there appears to be any problems with these items, please contact Galvin Engineering.

Note: Before attempting to replace any of these items check that you have access to re-run the connection leads. If you do not have access or have any doubts, please contact Galvin Engineering for advice before commencing replacement.

WARRANTY

Galvin Engineering products are covered under our Manufacturer's Warranty. Galvin Engineering products must be installed in accordance with the installation instructions and in accordance with AS/NZS 3500 and NCC Volume Three, relevant Australian Standards and local authorities applicable to product being installed. Water and electrical supply conditions must also comply to the applicable national and/or state standards, failing to comply with these provisions may void the product warranty and affect performance of the product.

Please visit www.galvinengineering.com.au to view the full warranty, our Installation Compliance and Maintenance & Cleaning information as well as any other additional information.

DEFINITIONS AND DISCLAIMER

Galvin Engineering manufactures a range of products marked as Ligature Resistant or Vandal Resistant. Please visit www.galvinengineering.com.au to read the definition of these terms and the disclaimer that applies to these products.

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