



Installation and operating instructions for the Sanitary Waste Flushing and Dosing System (SWFDS)

It is the installer's responsibility to read, understand and comply with these instructions



Important notice related to the certification document WMTS-504:2013 to which these installation instructions are linked.

On 25 February 2013 management and administration of the WaterMark Certification Scheme transferred to the Australian Building Codes Board (ABCB). From this date all new technical specifications will be named WaterMark Technical Specifications (WMTS). Within two years all existing Australian Technical Specifications (ATS) will be renamed WMTS. During this initial period both terms may be used and accepted. All new and recertified Certificates of Conformity will reference WMTS. Certificates of Conformity that currently reference ATS will be re-issued referencing the equivalent WMTS during this initial period. The WaterMark Schedule of Specifications lists all current WMTS and, where appropriate, the former ATS name.

These installation instructions are also relevant to other regions outside Australia and New Zealand provided that local procedures leading to installation (if any) are adhered to.

The relevant Australian Standards are referenced in this document. For installations outside Australia either refer to the equivalent Standard for the region or in the absence of a relevant Standard then the Warranty will not be void if the Australian Standards are used provided that the relevant authority agrees.

We would like to thank you for purchasing and installing the Drainwave Sewer Waste Flushing and Dosing System (SWFDS).

The combination of the latest Drainwave toilet and Drainwave flushing technologies provides the answer for the ultimate water saving plumbing installation.

To match your commitment to saving water we have committed to ensuring that the system components are manufactured to the highest standards and Watermark certified to ensure their quality and reliability.

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1. System Explanation

A Sanitary Waste Flushing and Dosing System (SWFDS) is where all components together shall form an effective waste disposal system to transport sanitary waste in both private and reticulation sewers.

The WC cistern delivers the flush volume to the WC pan, which shall be capable of effectively delivering the waste to the Drainwave, where it will be captured and accumulated together for discharge.

The Drainwave **DOES NOT** require any external power source for operation.

For the purposes of these installation instructions Black and Grey Water are defined as;

- Black Water is water entering the drainage system via a WC pan,
- Grey water shall include all other sources of wastewater including kitchen sinks, taps and faucets, dishwashers, washing machines and urinals.

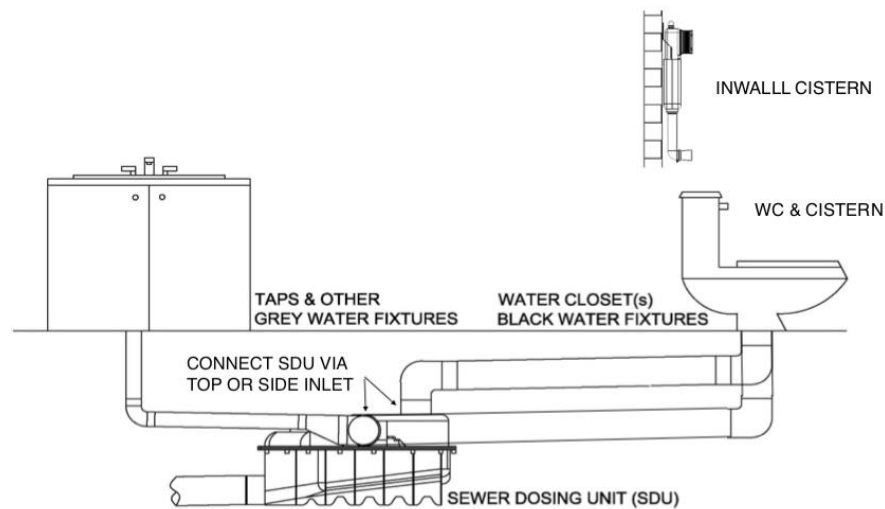


Figure 1- Typical Installation showing top and side entry inlet

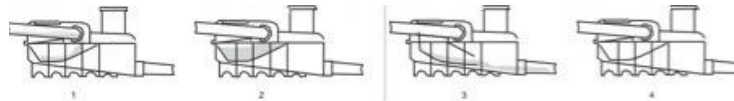


Figure 2 - Drainwave temporarily retains small amounts of water and when the collector is full the Drainwave tips by gravity and sends a pulse wave through the drainage pipes.

2. Component Contents and Unpacking Instructions

Generally:

- Carefully remove all components from their packaging
- Utilise approved manual handling techniques during unpacking, lifting and installation of any component to avoid injury to person.
- Do not stack unpacked components
- Do not place heated elements, soldering irons, welding equipment, heated tools and the like on any components.
- Keep all components free of oil, grease, grit and the like.
- Prior to installation visually inspect the components to ensure it is free of defects or damage.

WC and Cistern Contents

- WaterMark Certificate as per Manufacturer
- Pan
- Cistern (where applicable)
- Required fixings and valve mechanism

Drainwave Contents

- WaterMark Certificate WMKA 22107.
- Identification marker, which is to be affixed to the 150 I/O lid, using approved solvent glue.
- Drainwave unit ready for installation.
- Drainwave advisory stickers for fixing to WC's, which form part of system.

3. Standards and Regulations

It is important that all relevant plumbing regulations are followed when installing the SWFDS including local sanitary plumbing and drainage requirements

In Australia the Plumbing code of Australia (PCA) and the Building Code of Australia (BCA) should be followed including all integral plumbing components to be watermarked. I.E. pipe work or fittings connected to the Drainwave in accordance with AS/NZS 3500.2.

For countries outside Australia the relevant plumbing regulations are to be followed.

In Australia and New Zealand, individual components installations shall further comply as follows:

- WC Pans and Pedestal installation is to be in accordance with AN/NZS 3500 as required by AS 1172.1, AS 1172.2 & WMTS-504.
- Drainwave installation is to be in accordance with ATS 5200.499, AS/NZS 3500.2, AS/NZS 3500.5 & WMTS-504.

4. Warnings

These warnings are written to protect the operation of the SWFDS. Failure to adhere to any of these warnings will void the warranty of the whole and individual components to the system.

- The entire SWFDS must be installed in accordance with these instructions.
- The entire SWFDS must be installed and/or removed by a suitably qualified and licensed person.
- The SWFDS has been designed and manufactured for continuous operation when subject to normal drain and sewer line waste, household detergents, cleaners and the like.

5. Do's and Don'ts

- Do – read and follow the detailed installation instructions of the relevant component and installation configuration.
- Do – provide the WaterMark documentation to the relevant authority.
- Don't – use an electric eel or other drainage “cut” cleaning equipment without being aware of where the SDU (Drainwave) sits in the drainage system.

6. Component Limitations

WC and Cistern

- The maximum distance between any WC and SDU (Drainwave) is 6 meters with a grade of 1.65% (1:60)

Drainwave

- No WC is to be further than 6 meters from the Drainwave with a grade of 1.65% (1:60)
- A Maximum of 6 WC's is allowable into a Drainwave unit.
- Black water shall not enter with more than 500 mm vertical fall height (if a solution is required, dissipate any vertical velocity in accordance with Clause 6.7 of AS 3500.2.)
- Where multiple WC's (up to 6) are connected to a Drainwave it is necessary that no more than 3 WC's enter via any inlet port. (Example if there are to be 4 WC's connected then 3 are admissible through 1 inlet port and the subsequent WC is to be connected through the second inlet port.)
- Grey water may enter via any inlet points with no limitation on number of fixtures or upstream distance.
- Installation in areas of pedestrian traffic only unless protected by a suitable cover or concrete slab compliant with AS 3996.

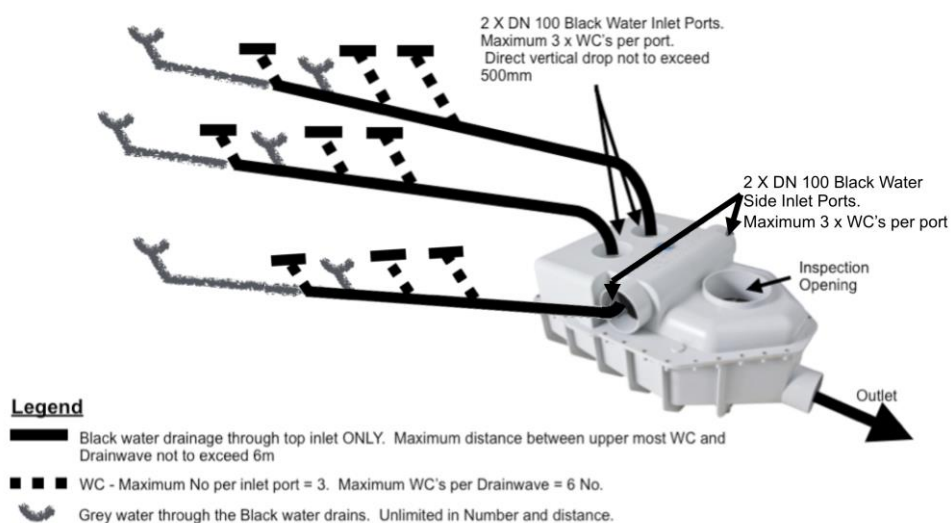


Figure 3 - Drainwave Limitations Summary Diagram

7. Installation and Connection Requirements

Placement and instructions for Installation of the Components

Fittings are to be thoroughly cleaned and fixed with approved solvent weld in accordance with AS 2032.

WC and Cistern

Refer Appendix A for specific WC model installation instruction and:

- As per standard installation as provided in AS 3500.
- WC Outlet – Connection to DN 100 network via an approved pan connector.
- Cistern Supply – minimum 15 mm.

Drainwave

Refer Appendix C for specific Drainwave installation instructions

- DN 100 Inlet
- DN 100 Outlet
- DN 150 Inspection Opening

Additional Venting Requirements

No change to AS/NZS 3500 venting provisions is required. In circumstance where the Drainwave unit is installed with no direct upstream or downstream vent it is recommended to vent the unit, venting can be to atmosphere or by an Air Admittance Valve (AAV) with minimum airflow capacity of 32 L/s.

8. Finalising the Installation

WC and Cistern

- Check fixture operation
- Check for leaks
- Check fixings

Drainwave

- Refer to Appendix B for installation instructions and ensure the prior to back filling check that the bucket is activating by test filling with sufficient water for bucket to activate.

9. Operating Maintenance Instructions

WC and Cistern

- See manufacturers guide for details

Drainwave

- The Drainwave is an automated device, which requires no external power.
- Should solid waste matter be present within the device, a careful pressure clean should be undertaken. (Maximum pressure 110 Bar).
- Should the SWFDS be installed in a building which may be unoccupied for extended periods of time, then the owner/occupier should be advised the following;
 - To include a 10 litre dose of the drainline prior to leaving the facility unoccupied. This will ensure the drain line and the Drainwave are clear of waste. This can be done by activating the full flush 3 times or running the tap on an upstream fixture.

10. Trouble Shooting

Should an operational failure of any component within the system be suspected or experienced, immediately contact a registered plumber to inspect and/or repair.

Inspection of the individual components should include but not limited the following;

WC and Cistern

- Check flushing mechanism and operations
- Check for foreign objects lodge within pan and cistern
- Check for leaks
- Check water supply

Drainwave

- Open the 150 mm inspection opening and visually inspected the device to ensure it is free from foreign and waste matter, clean out if required,
- Check tipping action of bucket by having sufficient water flow into the device to fill the bucket and activate the tipping action,
- Replace device if damaged beyond cleaning.

11. Warranty Terms and Conditions

WC and Cistern

See manufacturers guide for details

Drainwave

- Refer Drainwave website
<http://www.drainwave.com>

12. Parts List

WC and Cistern

See manufacturers guide for details

Drainwave

- Refer Drainwave website & Appendix B
<http://www.drainwave.com>

13. Warranty Procedure

General

In the event that there is a problem with any component please contact the component retailer. This contact will initiate a service call, which will require you to sign your consent to the following;

- A service call by the local service agent will be made on site.
- If it is determined that the reason for failure is due to incorrect installation, mistreatment of the affected component or failure to adhere to minimum maintenance requirements then the cost of the service and any repair or replacement of the component will be borne by the customer.
- If it is determined that the reason for failure is not due to incorrect installation or mistreatment of the affected component it will be returned for replacement under the terms of the component warranty.

WC and Cistern

See manufacturers guide for details

Drainwave

- Refer Drainwave website & Appendix B

13 Willowdene Ave
Sandy Bay TAS 7005
Ph: 0437529100
Fax: (03) 62250618
<http://www.drainwave.com>

14. Technical Specification Sheets and Component List

WC and Cistern

- Refer Appendix A for WC model specifications

Drainwave

- Refer Appendix B for Drainwave specifications

Appendix A – WC Installation Instructions and Technical Specification Sheets

INSTALLATION INSTRUCTIONS

See Toilet Manufacturers site for details

Appendix B – Drainwave Installation Instructions Technical Specification Sheets

Drainwave

The following procedure should be used for the installation of a Drainwave.

- Drainwave is not to be installed in direct sunlight
- Connect black and grey water while ensuring compliance with Section 6 of these instructions.
- Upper inlet ports require the installer to cut out the base of the port to allow entry to the Drainwave. Ensure the cut edges are free from burrs.
- Connect inlet and outlet pipes by applying a correct amount of solvent weld glue and pushing pipes 50mm into port sockets.
- Ideally no 90 degree bend is to be closer than 2 meters downstream of Drainwave.
- Install DN 150 inspection opening cover and screw cap. Fix "Drainwave Below" label to I/O cap.



Figure A: Glue Fix "Drainwave below" to I/O cap

- Product information labels are to be fixed to all cisterns and/or WC pans connected to the SWFDS.
- Any unused inlet ports shall be sealed off with approved plumbing fittings.
- If the unit is being placed on ground prepare a level base with bearing capacity of at least 80kPa by either compacting 75 mm min of FCR into the trench base or for wet and clay soils by preparing a minimum 75 mm base of bedding mortar
- If the unit is being suspended ensure adequate suspension points are available. Suspend with standard DN 100 pipe suspension system.
- Ensure the base and Drainwave is level in both directions using the bulls eye level.
- Backfill as per normal (if required)

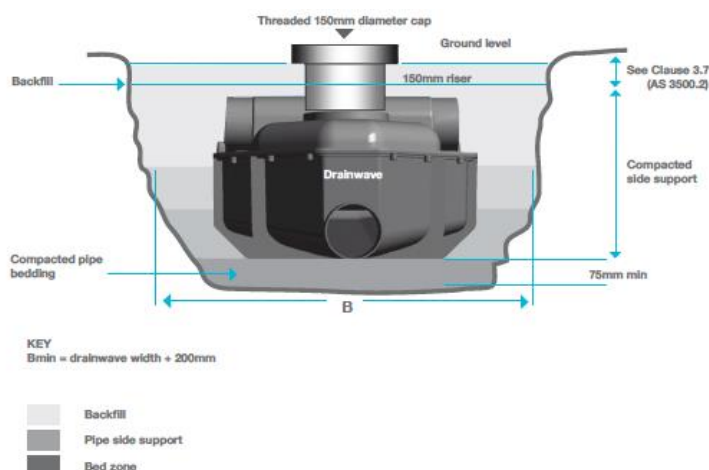


Figure B: Riser and backfill configuration if Drainwave is placed in the ground