



# Installation Guide

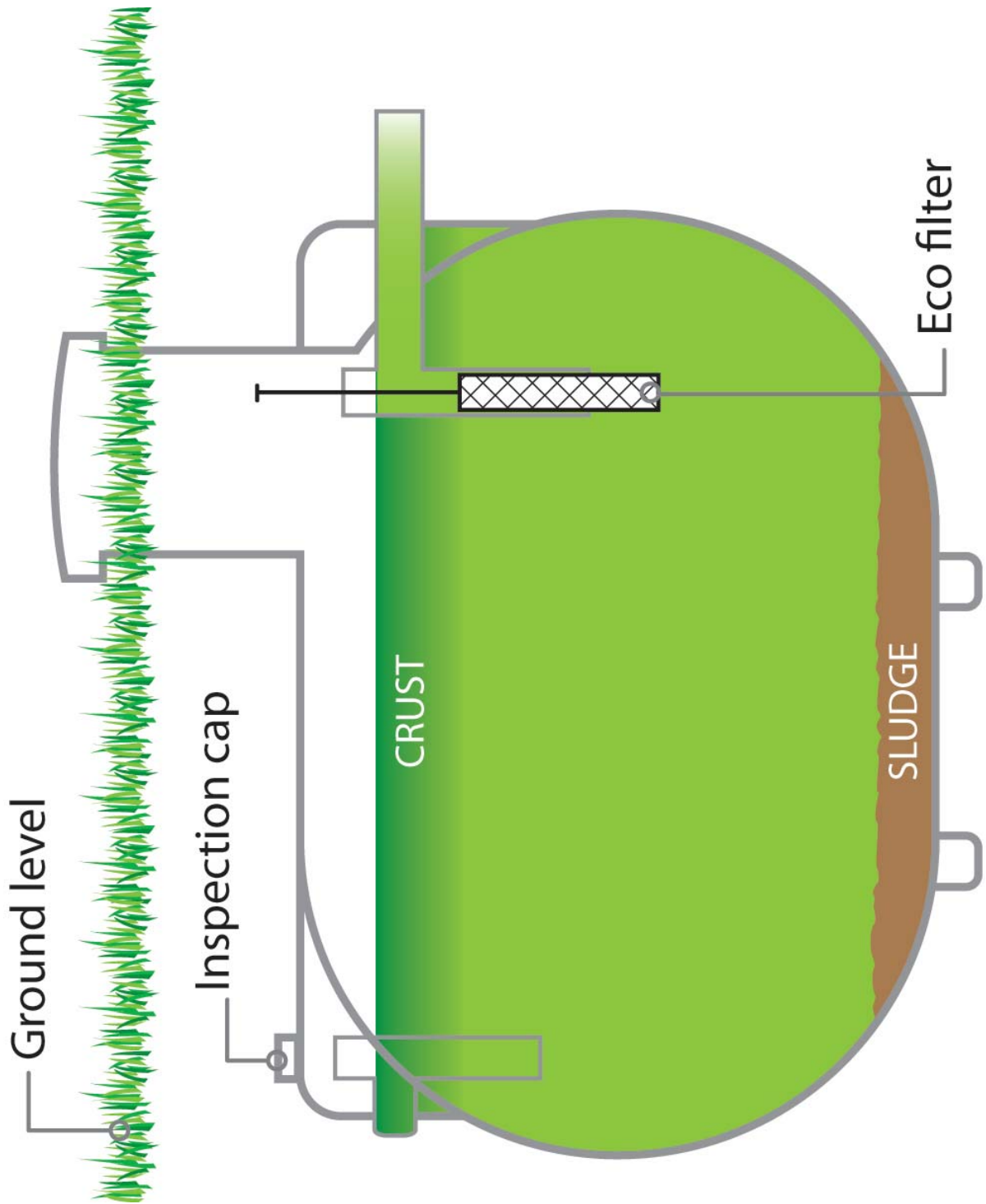
Devan Septic Tanks



SEPTIC TANK DIMENSIONS



# SEPTIC TANK OPERATION



## GENERAL INFORMATION



Devan septic tanks and underground vessels are made from an extremely robust grade of polyethylene specifically developed for use in underground products required to deal with the extraordinary forces of this type of installation.

The unique vessel design has allowed Devan to develop an extremely lightweight and flexible product that is the most robust of its type.

To follow are a series of installation notes to assist in ensuring your installation provides optimal performance and life span.

### Ground Water

It is important that installation of a Devan septic tank is not be carried out where permanent ground water is above the main body of the tank. Where a septic tank must be installed in an environment like this please consult Devan to assess what installation solution is required.

### Excavation

The excavation zone for the installation of the underground tank/s must comply with all relevant legal acts, codes and standards.

Unless the stability of the excavated face is determined by a registered engineer or a competent person (experienced in excavations), the safe slope should not exceed one vertical to one horizontal.

### Base Soils

The sub-grade material upon which the base of the tank shall bear upon shall be a minimum soft clay or silty sand of minimum bearing capacity 100kPa. This material should be compacted to 95% of standard dry density +/- 2% from optimum moisture content prior to installation of the underground tank. Any sharp rocks or other material must be removed from the base soil.

### Bedding

Compact bedding material shall be used to obtain a firm level base with a minimum depth of 150mm. Use pea metal 7-10mm (GAP 7-10) aggregate or bedding material.

### Positioning the Tank

Ensure there are enough people to assist in the process (trained) and that all lifting equipment is capable of lifting the tanks utilizing the lifting eyes. Check the orientation of the inlet and outlet. Check the manhole for level and alignment.

### Maximum Depth

The maximum burial depth of the tanks is 500mm. (The height of the riser.)

## Risers

The risers can be adjusted so that the outer 55mm rim of the riser is at ground level in order to limit ground water entering the tank. The riser may be adjusted to fit ground level by removal of the top rim and cutting the riser to height. The top rim can be then refitted and resealed in place. Please note that septic tank installations should have 500mm of fill on top of them.

## Filling the Tanks

The tanks should be one half full before back filling is commenced to stabilise the tank. Fill the tank immediately after back filling is completed to normal operational level. Check for any leaks.

## Backfilling

The backfill material around the tank shall be free draining, granular material with a saturated density minimum of 18kN/m<sup>3</sup>, maximum of 21kN/m<sup>3</sup>, with a minimum coefficient of internal friction of 30 degrees. The backfill shall be compacted to minimum 95% of standard dry density +/- 2% from optimum moisture content in compacted layers (around the full circumference of the tank) of no greater than 200mm. We recommend pea metal less than 20mm (GAP 20). Ensure backfill is compacted into the underside of the tank. Good quality sandy clay loam soils/pumice free from stones and rocks are a suitable back fill.

## No Go Zone

A zone around the perimeter of the tanks 2 metres from the edge of the tanks must be identified to stop the intrusion of vehicles, stacked materials and congregations.

## Anti-Flotation

The tanks are designed to resist flotation in high ground water conditions if covered by at least 500mm of backfill when full to operating levels. The tanks should only be emptied when ground water conditions are low (usually in summer time) and be refilled immediately after solids are removed.

## Septic Tank Standard

Septic Tank Standard AS/NZS 1546. 1.2008. The tanks are to be installed in accordance with Appendix B.

## Health & Safety

Installation shall be carried out in accordance with the recommended Department of Labour Approved Code of Practice for Safety.

## Surface Runoff

Divert surface runoff away from tanks.

## Lid Sealing

The lid is fitted with an O ring; ensure this is clean to achieve a good seal.

## Commissioning

Make sure the vessels are filled to normal operational level, check for water tightness and add an activating enzyme.

## Warranty

Failure to comply with these instructions will invalidate the warranty.

## Support

If at any point you are unsure about anything to do with your installation, Devan have experts on hand to assist with any technical issues you may have.

## WARRANTY POLICY

Your Devan product has been manufactured to the highest standards utilising advanced technology and production procedures. Devan Plastics Limited (“Devan”) warrants their products to be free of defects in workmanship or materials for the period defined in Appendix A, provided the provisions detailed below have been complied with.

A third party manufacturers’ warranty applies to all other components used in the manufacture of Devan products. Third party manufacturer’s warrant their products are free from defects in material and workmanship at the time of shipment and will make good, by repair or at its option replacement, any defects which occur during the warrantable period as defined in Appendix A provided the provisions below have been complied with.

### Necessary provisions

In order for a warranty claim to be accepted by Devan Plastics Limited or a third party manufacturer the following provisions must be met:

- 1) The equipment was correctly installed and in proper use as was intended by the manufacturer in accordance with the Installation and operating instructions supplied, and generally accepted code of practice or national standard/s.
- 2) The warranty period (as defined in Appendix A) from the date of invoice to the end user has not lapsed.

- 3) The claim for goods under warranty arises solely from faulty material or manufacturers’ workmanship.

- 4) The customer or agent of the customer must return goods under warranty (where appropriate), stating the date and place of purchase promptly and within the product liability period.

- 5) No repairs must be entered into by anybody other than a specified distributor or repairer as agreed and appointed by Devan Plastics Limited.

- 6) Devan must be given a reasonable opportunity to inspect the tank and, if deemed necessary by Devan to have an independent engineering or other expert analysis of the cause of failure carried out.

### Exclusions

Both the Devan warranty and third party manufacturer’s warranty do not cover the following exclusions:

- 1) Except where otherwise stated by law, the manufacturer shall not be under liability for any injury, damage, or loss, including consequential damage or loss resulting from the use of its products, or resulting from defects therein. This may specifically refer to the cost of carriage, installation, electrical or plumbing requirements etc.
- 2) Damage caused by abnormal operating conditions, war, violence, cataclysm, or any force majeure.

3) Damage caused by the equipment being used for an application for which it is not manufactured or recommended by the original manufacturer or Devan Plastics Limited.

4) Damage caused by sand or abrasive materials, corrosion due to salt water, hazardous liquids, electrolytic action, and liquid temperatures beyond the recommended range, cavitation, and improper power supply voltage or outages.

5) Attempted repair, dismantling or any other tampering with any component of the system without the prior written approval of Devan Plastics Limited will void any warranty.

6) If the Devan product or third party component has not been maintained in accordance with Devan Plastics instructions.

7) Ingress of water or insect infestation to electrical components due to post-manufacture electrical penetrations not being appropriately protected.

8) Incorrect installation or negligent practices of the installer of the product.

This warranty does not exclude any condition or warranty implied by the Consumer Guarantees Act 1993, Fair Trading Act 1986, and the Commerce Act 1986 and is in addition to any rights the purchaser may have at law.

## Appendix A - Product warranty periods

Product	Warranty Period
Water tanks (residential)	20 years
Water tanks (commercial)	10 years
Molasses tanks	10 years
Septic tanks	15 years
WWTS vessels	15 years
Grease traps	10 years
Flout tank	10 years
Detention/retention tanks	15 years
Drums	1 year
Refuse bins	1 year
Industrial bins	1 year
Third party components (WWTS)	2 years
Third party components (other)	1 year
Grundfos pumps	2 years



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