



Installation & Maintenance Guide

Devan Water Tanks



Please read these guidelines before installation begins.

Failure to properly prepare and install your tank correctly or continue with ongoing maintenance will void your warranty.

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Devan Water Tanks. Made in New Zealand for New Zealand Conditions!

In order to gain maximum benefit from your Devan water tank, we have outlined the following instructions for installation and setup. Please read all these instructions carefully before installing your tank. The tank warranty will be void if the installation instructions are not adhered to.

DELIVERY OF YOUR DEVAN TANK

Devan water tanks are delivered by road to your gate. Transportation to the actual site and installation is the risk and responsibility of the purchaser. Where there is easy and suitable road access, our drivers may agree to off-load closer to the installation site, however this will be at the purchaser's risk. On arrival please make sure that somebody is available to help our drivers off-load your tank.

Our drivers will phone the person nominated at the time of order on the morning of delivery to confirm details. They will advise an approximate delivery time. If the driver is unable to get hold of the nominated contact person, the tank will be off-loaded at the most convenient location at the site and it will be the purchasers responsibility to relocate the tank at their risk and responsibility.

If you have special access issues, please make sure these are made known either to the Devan sales team or to the driver. Examples of such issues include truck only access in tight spaces, farm gate entry as opposed to main driveway or tanker track entry or no wet weather access.



FOUNDATION AND LOCATION

A full Devan tank is extremely heavy (up to 30 tonnes). Be thoughtful in selecting your tank location.

When installing the Devan tank, choose a firm and level area that is free from any projections. Elevated locations must have a solid floor and be strong enough to withstand wind loads in conjunction with the weight of a full tank.

A level foundation is required for tanks 5,000 litres and larger. Concrete, quarry fines (<7mm), pumice and sand are all suitable.

Sand is the recommended option. The sand base needs to be 100mm deep, 500mm greater than the tank diameter and most importantly, free from any sharp objects or projections such as rocks, roots or stones.

The sand base must be retained at all times. Pipe tank overflow well clear of the sand base to ensure overflowing water does not aid erosion.

In high wind areas such as hilltops, the Devan tank can be secured to the ground using all four lifting lugs. Do not overtighten the tie-downs or damage will result.

Devan water tanks are not designed for in-ground installation but can be buried up to 500mm and back filled with clean fill. If further depth is required tanks must not be buried any further than a maximum of 1000mm below ground level keeping a free space of at least 500mm around the tank. This space should have drainage installed and the gap filled with bark so it is not a trap hazard for small animals or children.

Devan tanks can be recessed into banks or similar, providing the tank is not backfilled against and there is free space of at least 500mm around the tank.

Do not install water tanks over buried pipes, cables or any other utility connections which may require servicing or maintenance.

Do not install water tanks over underground structures such as cellars, septic tanks, sewage canals, etc.

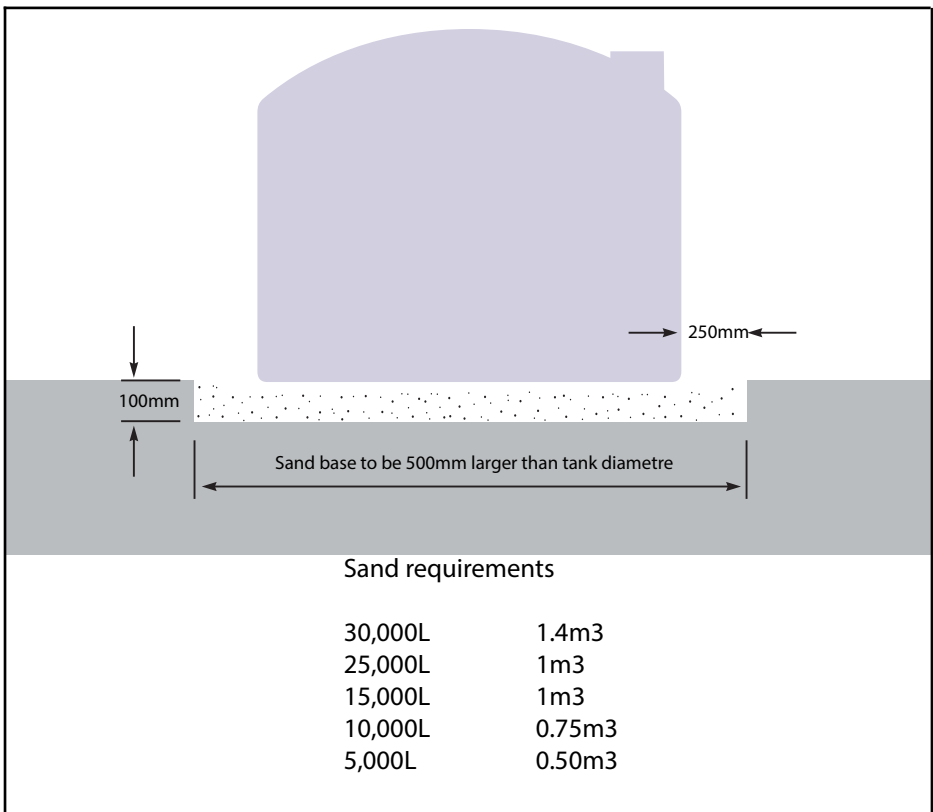
Do not install water tanks where they could pose a potential hazard to life or property. eg under foundations or within a building.

FOUNDATION AND LOCATION - CONTINUED

In areas prone to rabbit or other burrowing animals it is advisable to bury wire mesh to a depth of at least 600mm in a narrow trench around the foundation parameter.

In areas where livestock have access to the tank, the area surrounding the tank should be fenced to a minimum of 1.0 metre from the tank, to avoid any damage to the tank wall or outlet fittings.

Where the tank needs to be lifted into place, all four lifting eyes must be used in doing so. The lifting eyes are not rated sufficiently to be used with any water in the tank.



BOTTOM OUTLET PLUMBING GUIDELINES

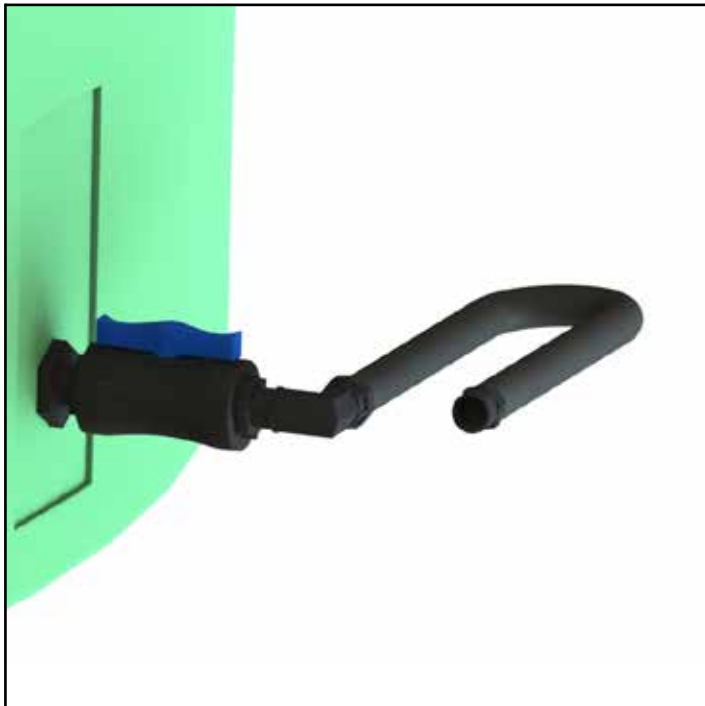
Bungs are screwed in loosely for transport only. If used permanently, please remove the bung and Teflon tape the threads and screw back in. Do not overtighten the bungs if they are to be refitted. This procedure must be completed before filling the tank.

Because polyethylene water tanks expand when full, plumbing to the tank must be flexible. Tanks will expand 30 to 40mm from new when filled for the first time. Tanks will continue to expand up to 100mm over their life span.

All plumbing attached to the bottom of the tank must be done correctly with all base connections flexible and free from stress. Plumbing kits are recommended and are available from Devan in 25mm, 32mm and 50mm sizes.

Polyethylene pipe does not constitute flexible plumbing. Flexi-hose needs to be used to provide sufficient flexibility.

No extra penetrations are to be cut into the walls of the tank without written approval of the manufacturer. Doing so will seriously affect the structural integrity of the tank and could lead to premature failure.

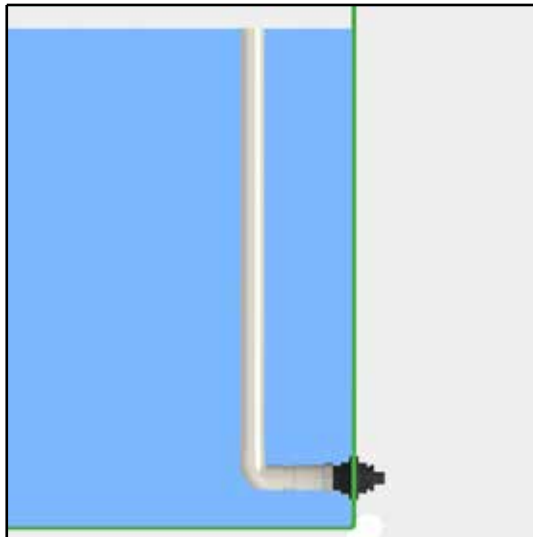


25mm Plumbing Kit - TAKPL25

BOTTOM OUTLET PLUMBING GUIDELINES - CONTINUED

There are specially designed mounting areas on the wall of the tank for outlet plumbing with brass fittings moulded-in for extra plumbing strength. These fittings are pre-drilled and tapped ready for use. These moulded-in fittings are raised off the bottom of the tank to prevent sludge pick-up and to retain sufficient weight (up to approx. one tonne in large tanks) making the tank more stable in exposed areas.

It is not recommended to install tank fittings anywhere else in the tank wall as this will create a stressed point in the tank structure and void the warranty. If an outlet fitting is required at a specific level, connect an internal vertical pipe to the desired level from the inside of the provided wall mounted outlet. These Restricted height outlets are available for purchase from Devan.



25mm Restricted Height outlet - RO25

All pipe fittings larger than 25mm must be supported independently to minimise stress on base. Please use only appropriate PVC or polyethylene fittings and make sure that all joints are flexible and are well sealed and watertight with no light penetration.

Where a bottom outlet fitting of over 50mm is required it is strongly recommended that the tank be upgraded to heavy duty or extra heavy duty to accommodate the high-use nature of the application. If a larger fitting is installed in a standard tank it will void the warranty.

Any aftermarket fittings installed in the tank wall or base will void warranty.

TOP PLUMBING

Connecting to the dome

There are specially designed mounting areas on the dome of the tank, for inlet and overflow plumbing. We recommend the use of Universal seals® with all top plumbing and care should be taken when drilling the corresponding hole size. Proper hole saws must be used.

Universal seals® are available from Devan (25mm to 100mm).

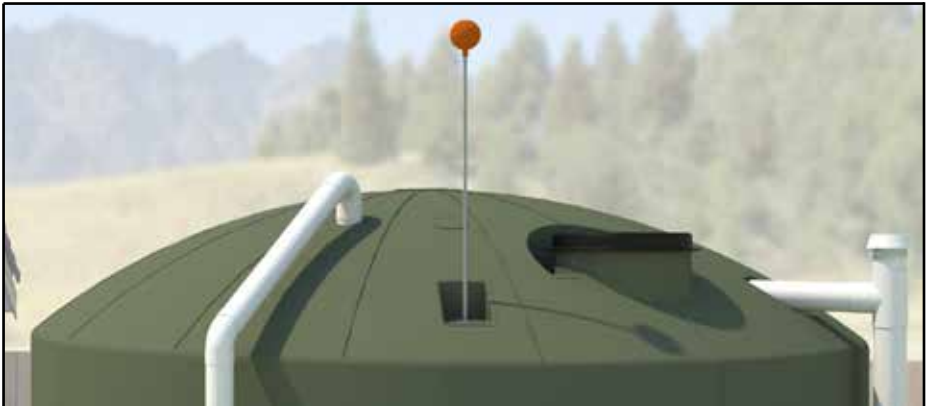
The overflow should be piped away from the foundation to avoid erosion.

Overflows

An overflow must be installed in all instances to let excess water out of the tank. This is also important if the tank is filled from a float valve in case it sticks open.

A 'Hockey stick' shaped overflow will not provide sufficient out flow in instances of heavy rain and failure to allow could lead to the tank dome eventually vacuuming in.

Ninety degree overflow and vent pipe work is essential.



Rainwater Tank - example

TOP PLUMBING - CONTINUED

Venting

It is essential that you have more than adequate overflow and air venting for your operating conditions. Air and water must be able to exit the tank at the combined maximum rate that it can enter. If the tank is not sufficiently vented it will inevitably suck in the dome of the tank which will cause the tank to fail prematurely.

For high flow situations such as a wash down tank at a cowshed an appropriate size vent must be installed in the dome.

Venting options are available from Devan.

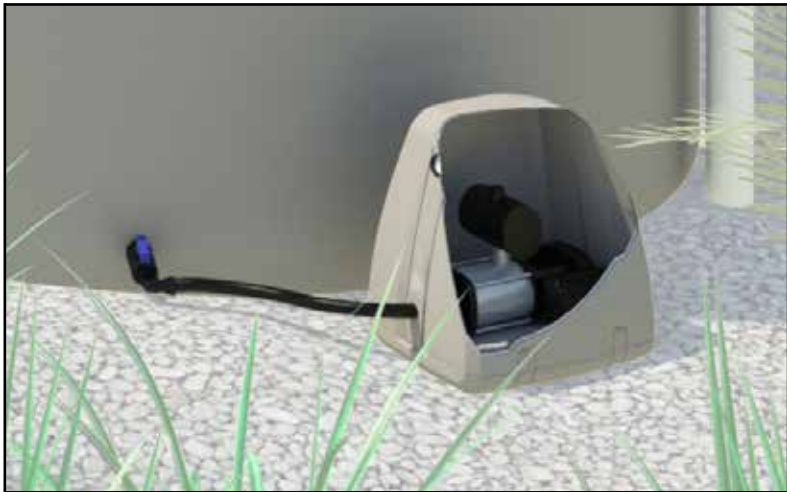


100mm Overflow vent kit- TAKOV100

WATER PUMP INSTALLATION

Do not directly install water pumps to the side of your water tank. The water pump and its motor must be self-supported on its own mount and connected to the tank via flexible hose to isolate any vibration or movement by the pumping unit itself. The tank outlet areas and their fittings must not be stressed by the weight of the water pump, motor or plumbing.

Remember to allow more than adequate overflow and venting when water pumps are used. Air and water must be able to enter or escape the tank at the same rate the water is being pumped in or out. Use the top plumbing areas when attaching overflow or vent plumbing to your water tank.



25mm Plumbing kit with Pump and Cover

WARRANTY POLICY

Your Devan product has been manufactured to the highest standards utilising advanced technology and production procedures. Devan Plastics Limited (“Devan”) offers a warranty to the original purchaser that 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 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 warranty period.
- 5) No repairs must be entered into by anybody other than a specified distributor or repairer as agreed and appointed by Devan.
- 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:

WARRANTY - CONTINUED

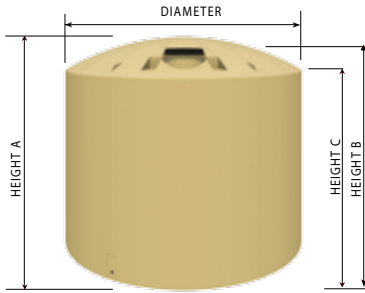
- 1) Except where otherwise stated by law, the manufacturer shall not be under liability for any injury, damage, or loss, including consequential damage or loss resulting from the use of its products, or resulting from defects therein. This may specifically refer to the cost of but not limited to lifting, installation, electrical or plumbing requirements.
- 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.
- 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 will void any warranty.
- 6) If the Devan product or third party component has not been maintained in accordance with Devan.
- 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.
- 9) Tank colour that may change or fade over time.
- 10) Any transport, insurance and freight costs.

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
Water tanks (custom made outlets - > 100mm)	1 year
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)	1 year
Third party components (other)	1 year
Grundfos pumps	2 years

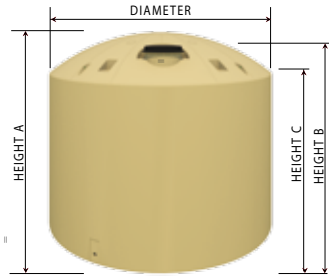
WATER TANK DIMENSIONS



TT30 - 30,000 Litres

DIAMETER: 3.7 metres
HEIGHT A: 3.1 metres
HEIGHT B: 2.9 metres
HEIGHT C: 2.7 metres

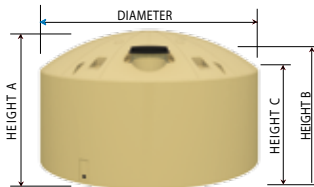
WEIGHT: 475 kg
MANWAY: 435mm
OUTLETS: 2 x 50mm
THREAD: Brass BSP



TT25 - 25,000 Litres

DIAMETER: 3.5 metres
HEIGHT A: 3.0 metres
HEIGHT B: 2.8 metres
HEIGHT C: 2.5 metres

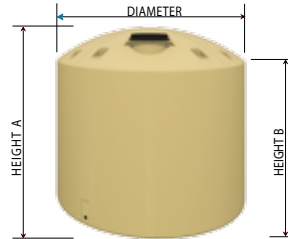
WEIGHT: 375 kg
MANWAY: 435mm
OUTLETS: 2 x 50mm
THREAD: Brass BSP



TT15 - 15,000 Litres - NORTH ISLAND

DIAMETER: 3.5 metres
HEIGHT A: 2.0 metres
HEIGHT B: 1.8 metres
HEIGHT C: 1.6 metres

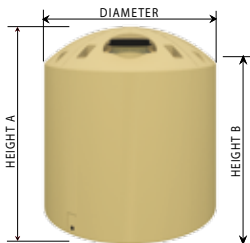
WEIGHT: 250kg
MANWAY: 435mm
OUTLETS: 2 x 50mm
THREAD: Brass BSP



TT15 - 15,000 Litres - SOUTH ISLAND

DIAMETER: 2.9 metres
HEIGHT A: 2.6 metres
HEIGHT B: 2.2 metres

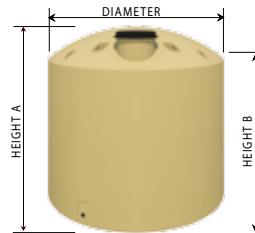
WEIGHT: 275 kg
MANWAY: 435mm
OUTLETS: 2 x 50mm
THREAD: Brass BSP



TT10 - 10,000 Litres - NORTH ISLAND

DIAMETER: 2.5 metres
HEIGHT A: 2.6 metres
HEIGHT B: 2.2 metres

WEIGHT: 225 kg
MANWAY: 435mm
OUTLETS: 2 x 50mm
THREAD: Brass BSP

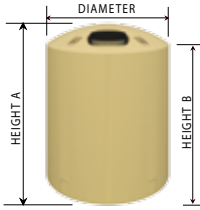


TT10 - 10,000 Litres - SOUTH ISLAND

DIAMETER: 2.6 metres
HEIGHT A: 2.4 metres
HEIGHT B: 2.1 metres

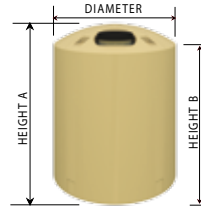
WEIGHT: 225 kg
MANWAY: 435mm
OUTLETS: 2 x 50mm
THREAD: Brass BSP

WATER TANK DIMENSIONS - CONTINUED



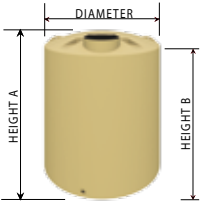
TT05 - 5,500 Litres - NORTH ISLAND

DIAMETER: 1.9 metres
HEIGHT A: 2.3 metres
HEIGHT B: 2.0 metres
WEIGHT: 112.5 kg
MANWAY: 435mm
OUTLETS: 1 x 50mm
THREAD: Brass BSP



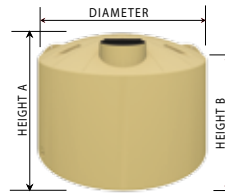
TT05 - 5,000 Litres - SOUTH ISLAND

DIAMETER: 1.9 metres
HEIGHT A: 1.9 metres
HEIGHT B: 1.8 metres
WEIGHT: 100 kg
MANWAY: 435mm
OUTLETS: 1 x 50mm
THREAD: Brass BSP



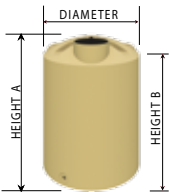
TT04 - 4,000 Litres

DIAMETER: 1.7 metres
HEIGHT A: 1.9 metres
HEIGHT B: 1.8 metres
WEIGHT: 75 kg
MANWAY: 383mm
OUTLETS: 1 x 50mm
THREAD: Brass BSP



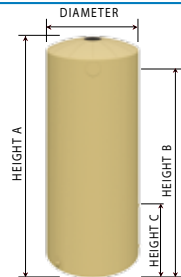
TT03 - 3,500 Litres

DIAMETER: 2.0 metres
HEIGHT A: 1.3 metres
HEIGHT B: 1.1 metres
WEIGHT: 75 kg
MANWAY: 383mm
OUTLETS: 1 x 50mm
THREAD: Brass BSP



TT02 - 2,000 Litres

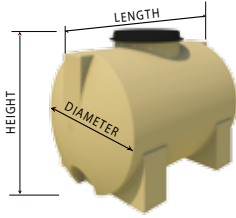
DIAMETER: 1.4 metres
HEIGHT A: 1.8 metres
HEIGHT B: 1.6 metres
WEIGHT: 50 kg
MANWAY: 383mm
OUTLETS: 1 x 50mm
THREAD: Brass BSP



TT01 - 1,000 Litres

DIAMETER: 0.87 metres
HEIGHT A: 2.0 metres
HEIGHT B: 1.8 metres
HEIGHT C: 0.4 metres
WEIGHT: 35 kg
MANWAY: 150mm
OUTLETS: 2x50mm & 2x16mm
THREAD: Brass BSP

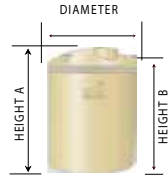
WATER TANK DIMENSIONS - CONTINUED



TT007 - 750 Litres

LENGTH: 1.3 metres
HEIGHT: 1.0 metres
DIAMETER: 0.9 metres

WEIGHT: 30 kg
MANWAY: 435mm



TT006 - 600 Litres

DIAMETER: 0.86 metres
HEIGHT A: 1.2 metres
HEIGHT B: 1.1 metres

WEIGHT: 20 kg
MANWAY: 190mm
OUTLET: 1 x 50mm
THREAD: Brass BSP



CLEANING AND MAINTENANCE

Depending on the cleanliness of your water source, your water tank should be cleaned on a regular basis.

What can end up in my water?

Algae growth is a common occurrence in water tanks. Devan water tanks are manufactured to strict quality tolerances, meaning that no light can penetrate the tank which will eliminate any algae growth, as algae need light to exist. Sometimes the nature of an installation can change this whereby an installer may cut oversized holes for inlets or overflows/venting. Blocking up any points for light to enter the tank will reduce or eliminate algae growth in the tank.

External debris are a much more visible source of contamination that will either float on the top of the water, or form sediment on the bottom of the tank. Such contaminants will consist of leaf litter, bird droppings, dead insects and even animals. This debris will build up on the bottom of your tank and require removal periodically.

Cleaning frequency

Devan recommend that you clean your tank out at least annually; however it is important to inspect your water tank on a quarterly basis to assess the level of contamination. A quality installation with the right pretreatment accessories could mean your tank remains in immaculate condition for a number of years before requiring cleaning. Cleaning of your tank will either take a bunch of your time or money and so the less frequently you need to clean it, the better. If you are noticing the rapid build up of sediment on the bottom of your tank, investigate the options for pre-treatment.

Devan tanks have outlet locations positioned up off the bottom of the tank which means you are not drawing off the contaminated water at the bottom of the tank for your day to day consumption. This is a precautionary measure only and should not be relied upon to prevent organic material entering your water supply.

Tank cleaning options

Professional contractors

The Yellow Pages and other online sources will provide the details of people providing 'Water Tank Services'.

Depending on your proximity to the nearest service provider, this is not a terribly expensive exercise with reports of \$200-\$300 plus the cost of a tank of water, which varies dramatically around the country.

CLEANING AND MAINTENANCE - CONTINUED

Although a self clean (described below) is a relatively straight forward exercise, it can be very time consuming, while a contractor will have it done in a couple of hours.

Do it yourself

Warning: If you will be getting into the tank to clean it, make sure there is adequate ventilation, and you have another person present at all times in case something should go wrong. Working in confined spaces is dangerous and should not be attempted by an individual working alone.

Draining the tank down to the last 1-2 thousand litres through the spare outlet will concentrate all contaminants into the bottom of the tank. The quickest and easiest way to then remove the concentrated contaminants is to hire a wet vacuum system or pump and stir up all the debris with a soft broom, which will then be sucked out by the vacuum or pump.

Siphoning off sediments may also be done using an inverted funnel (described below) or pool vacuum cleaner, by dragging it along the bottom of the tank.



1) Start with a piece of flexible plastic tubing long enough to reach into your tank. Then fix an ordinary kitchen funnel to one end.



2) Fill the tube with water from a garden hose, making sure there are no air spaces present and the funnel is partially filled.



3) Block up the open end with a watertight seal and hold the funnel end vertical so the water stays contained in the tube.



4) If you are unable to enter the tank, attach the funnel to a long pole that you can manoeuvre through the tank opening.



5) When ready, plunge the funnel end into the tank water, then position the outside end in bucket and remove the stopper.



6) Water should begin to flow out the tank into the bucket, and you can now suck up any accumulated debris on the tank floor.

Devan would like to credit Gisborne District Council for some written content and the pictorial siphon instructions, and the Ministry of Health for some written content.

Attach
stamp

Devan Plastics Limited
PO Box 2602
Tauranga 3140

FOLD

WARRANTY REGISTRATION

Thank you for purchasing your tank from Devan, please take the time to fill out the warranty registration form. You can complete this online under 'warranty registration' or complete the form below and post it in.

Name

Address

.....

.....

.....

Phone

Email

Product Purchased

Serial or Sales Number

Installer (if used)

Description of tank use (stock water, home supply, molasses etc)

.....

.....

Check List

- Base outlets flexibly plumbed
- Overflow installed (larger than inflow)
- Base fill clean and level
- Tank vented correctly
- Depth of burial not exceeded

CUT