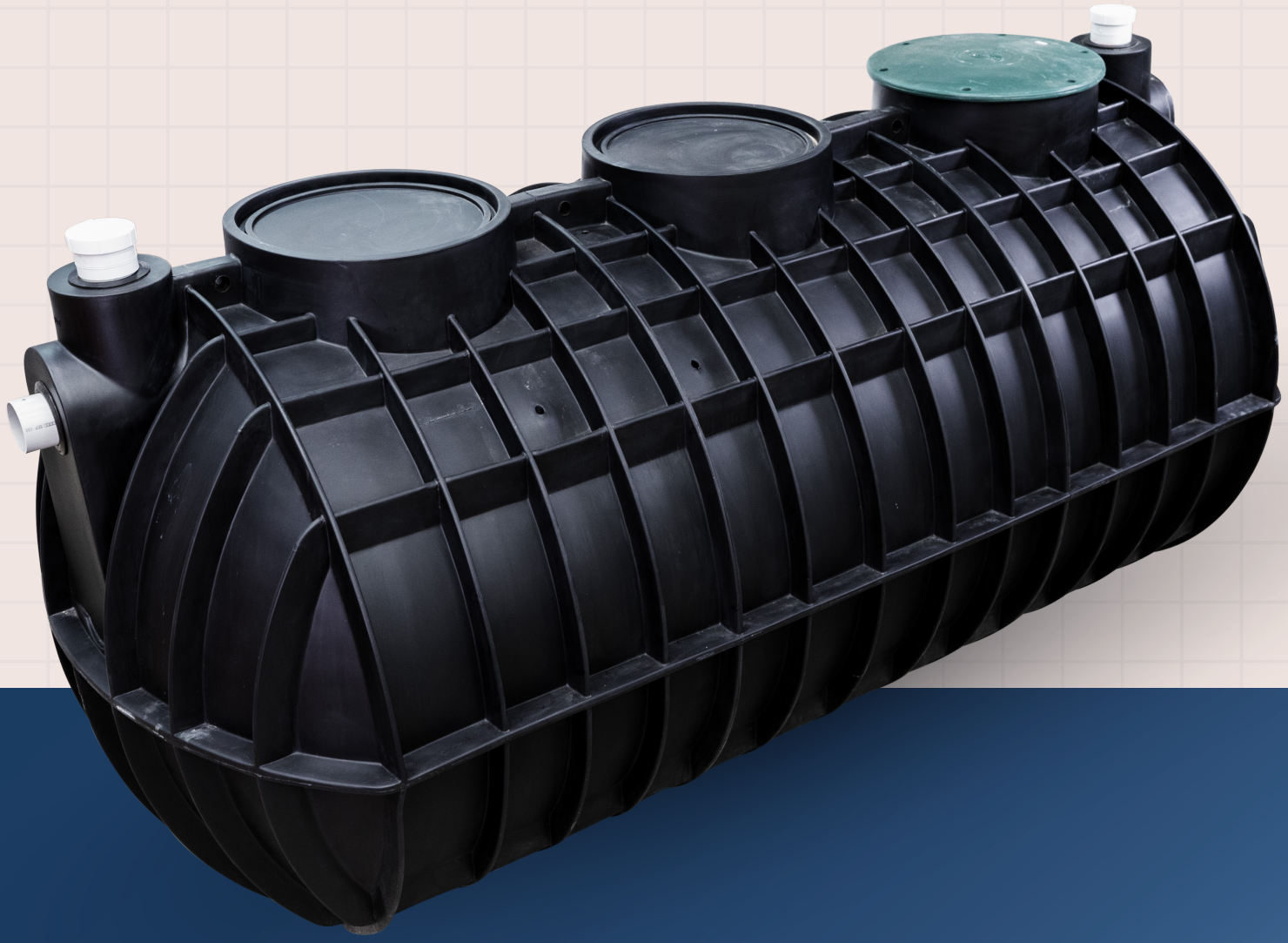
Underground Rainwater Tanks

Installation, Operation & Maintenance Manual



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Polymaster

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ABOUT THIS PRODUCT

Polymaster Underground Rainwater Tanks provide concealed, below-ground water storage for properties where visible tank footprint, land use, or water quality are a priority. Installed below grade, the tank collects and stores roof rainwater while keeping it cool, dark and free from algal growth, protecting the stored water from surface contamination and wildlife.

Available in 3,300L and 5,000L capacities, and supplied as a tank-only vessel, with a vortex pre-filter, or as a complete pump package — configured with either a submersible pump for household use or a garden pump for irrigation use, depending on the application. Tanks can be linked in pairs for 10,000L of total capacity while retaining the same low-profile excavation depth. Tanks are Australian made and manufactured to AS/NZS 4766:2006.

By following the installation requirements in this manual, this product will give you many years of trouble-free service.

KEY FEATURES:

- One-piece rotationally moulded polyethylene construction — no welds, seams or joints to fail
- Self-anchoring ribbed construction interlocks with compacted backfill to resist hydraulic uplift
- Low-profile height (1,665mm) minimises excavation depth
- Modular tank-to-tank connection — link two tanks for 10,000L total capacity within the same low-profile depth
- Available with vortex pre-filter for automatic roof debris removal
- Available as a complete pump package — submersible pump for household use, or garden pump for irrigation use
- Child-proof, tamper-resistant lid; Class D heavy-duty lid available for trafficked installations
- Manufactured to AS/NZS 4766:2006

MATERIALS USED IN CONSTRUCTION:

- PE – Polyethylene (tank body and lid), rotationally moulded as a single seamless vessel
- Made from premium polyethylene resin that meets the material requirements of AS/NZS 4766, UV-stabilised for Australian conditions
- Tanks are designed using engineering methods including finite element analysis (FEA) to ensure structural integrity under burial loads

AUSTRALIAN STANDARDS

- Polymaster is certified to ISO 9001:2015 International Standards and undertakes regular audits from third-party auditors.
- Polymaster Underground Rainwater Tanks are manufactured to AS/NZS 4766:2006 — BSI Benchmark certified (Licence BMP 657671).
- Every tank is labelled with full manufacturing details, including a serial number, for complete traceability.

CERTIFIED ISO 9001

PRODUCT CERTIFICATION

BSI Certified Product

AS/NZS 4766:2006 Lic:BMP No 657671
Australian/New Zealand Standards

GENERAL HEALTH & SAFETY

SAFETY CONSIDERATIONS

Substantial consideration and attention has gone into the design of this product. All precautions have been taken into account to ensure the purchaser's health and safety; however final health and safety resides with the persons installing the underground tank.

Occupational Health and Safety legislation varies in each state. It is necessary to refer to the relevant regulations in your state at all times during installation, servicing and repair.

INSTALLATION REQUIREMENTS

The system must be installed by a qualified plumber/installer. Installation by a non-licensed person may void warranty. All wiring must be performed by a licensed electrician.

Lifting of Tanks

When lifting the tank into place use the appropriate lifting lugs provided on the tank and lower evenly into the excavation.

WATER PIPE IDENTIFICATION

All service water pipes and outlets leading from the Polymaster Underground tank should be identified in accordance with AS/NZS 3500.1: 2003 – section 9 and other relevant local plumbing regulations to avoid erroneous connection with drinking water supply.

To avoid the wrong connection with drinking water and rainwater, all non-drinking tank outlets and rainwater pipework have to be marked clearly with "Rainwater" in accordance with local standards.

MAINTENANCE AND CONFINED SPACE WORK

In the event of work needing to be carried out inside the tank, refer to applicable confined space state legislation. Never leave the tamper-resistant lid off a tank.

SITE SAFETY

Refer to excavation and trenching legislation in your state about general excavation, shoring, battering and depth-specific regulations. Ensure a safe site is maintained with appropriate safety signage and barriers to protect damage from third parties, during and after installation.

It is the responsibility of the purchaser to ensure proper installation and maintenance of the underground tank. Polymaster will not be held responsible for any loss, injury or death resulting from a failure to observe all safety installation requirements and safe working procedures.

REGULATIONS & SITE LOCATION

CONSTRUCTION SITE PRE-CHECK

The following points should be clarified before installation commences:

The structural suitability of the ground (geotechnical report recommended)

Maximum groundwater levels which occur and drainage capability of the subsoil

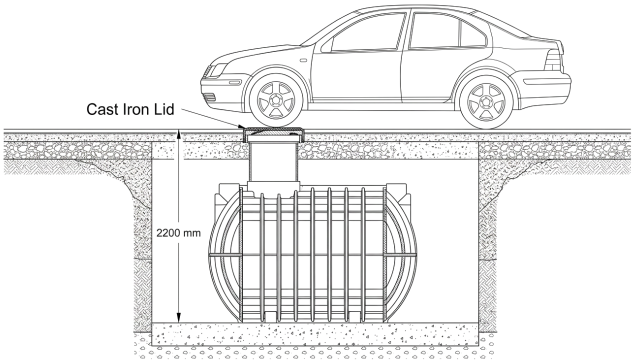
Types of load expected, for example: traffic loads

Location of all underground services

A geotechnical report conducted by civil testing engineers is strongly recommended to determine the physical characteristics of the subsoil before installation/excavation commences. For setback distance from neighboring boundary and any buildings, please contact local council.

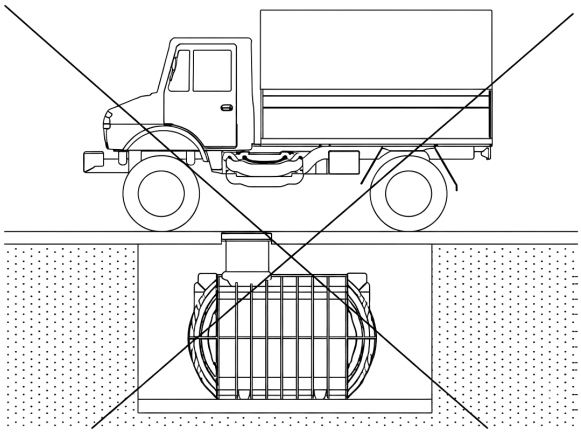
LOAD RATINGS FOR TANKS

Pedestrian Access: This tank has a load rated cover to 500kg. This makes it ideal for use in pedestrian traffic areas.



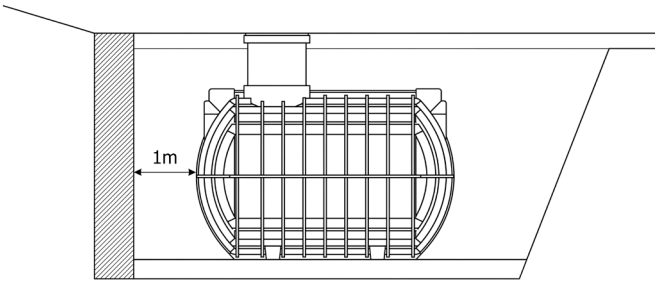
Passenger Vehicles: Where the tank is in a zone where it could be susceptible to passenger vehicle traffic, a removable cast iron lid (Class B) needs to be inserted over the standard tank cover. Minimum tank depths are displayed in the diagram for this application and groundwater must not be present. Maximum weight over this Polymaster tank is = 3.5 tonnes, gross vehicle mass (GVM).

Trucks: Polymaster underground tanks must not be installed below areas used by vehicles heavier than passenger cars. For a class D loading contact Polymaster for specialist advice.



GROUNDWATER CONSIDERATIONS

Careful consideration must be given in ascertaining the height of groundwater. Groundwater level must not be higher than the midline of the tank height. If the tank is in an area subject to vehicle traffic, there must be no groundwater present at all. If groundwater is higher than the midline, contact Polymaster for further advice.



If groundwater is evident at the base of the hole after excavation, place a PVC sleeve in one corner of the excavation big enough to fit a sump pump. Leave the pump running inside PVC pipe and do not remove until backfill is up to the top of tank. Once the tank is installed, backfill in 300mm layers and then remove pump and PVC pipe and fill the hole. Complete the installation.

INSTALLATION

STEP 1: TRENCH EXCAVATION

Excavate hole according to dimensions of tank and in accordance with engineer report. Ensure sufficient space, (not less than 300mm) is available for working around the tank during installation. Excavated soil must be kept well clear of the hole to prevent cave in.

Excavation slopes should be a minimum of 45 degrees. The distance from solid constructions must comply with local regulations; refer to the current Building Code of Australia (BCA) – "angle of repose". The trench embankment must be designed so that slippage or collapse of the embankment wall will not occur.

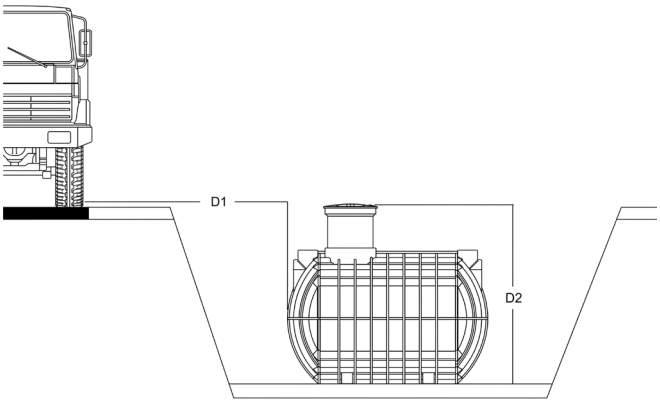
Hole depth should be 1660mm below finished pavement/lawn level if riser is not used. Allow depth of up to 2200mm if riser is used.

Remove all loose soil from base of hole and ensure base is firm, flat and level. A level layer of mechanically compacted Type B crushed rock (depth approx. 100mm – 150mm) is applied as the foundation of the excavation. The depth of the trench must be calculated so that the maximum earth coverage above the tank is not exceeded.

If a vortex filter is being fitted before tank, the riser supplied is required. Backfill hole must be compacted in 300mm layers.

Step 1.1: Installation Near to Surfaces Subject to Heavy Vehicle Traffic

If the underground tanks are installed adjacent to surfaces which are used by vehicles heavier than passenger cars, the minimum distance (D1) away from these surfaces is at least the depth (D2) of the trench, which is 2200mm if riser is used. Note: tanks must not be installed below areas used by vehicles heavier than passenger cars.



Step 1.2: Slope, Embankment, Etc.

On installation of the tank in the immediate vicinity (<5 m) of a slope, a statically calculated (by an engineer) supporting wall must be erected to absorb the soil pressure. The wall must exceed the dimensions of the tank by at least 500 mm in all directions, and must be located at least 1m away from the tank.

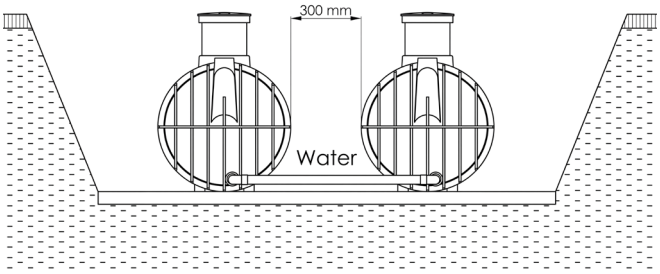
Step 1.3: Multi Tank Connection

Tanks are connected via flat area at the base of the tank with 100mm DWV pipes through special Polymaster seals (supplied). A 127mm hole saw is required to fit the Polymaster seals.

A 25 mm irrigation pipe also needs to link tanks at the top to relieve air pressure whilst tanks are filling. Ensure that the distance between the tanks is at least 300 mm. The pipes must project at least 200 mm inside the tanks.

If installing multiple tanks together, check inter connection joints and all rubber seals for damage and ensure they are installed correctly and all pipes are inserted the minimum 200mm before backfilling occurs.

STEP 2: PLACEMENT OF TANK



Using the lifting points provided for stability, lift tank into place by use of a backhoe, excavator or crane.

The tank has four feet. Ensure the tank does not sink into loose soil of hole; chock if necessary.

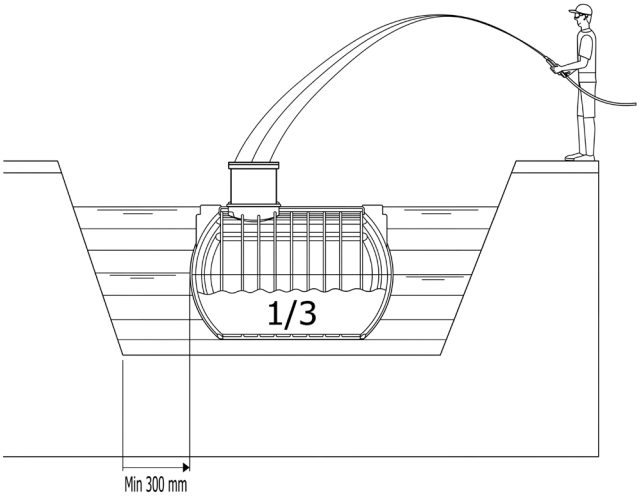
Using manhole for guide, level tank in both directions.

The tank must be lowered impact free into the prepared trench excavation using suitable lifting equipment.

STEP 3: PLACING WATER IN TANK

When water table is below midline skirt of tank:

- 3300Ltr tank – add 1000ltrs of water
- 5000Ltr tank – add 1500ltrs of water



STEP 4: BACKFILLING

The surrounding area of the excavation is filled in layers (maximum 300mm steps) of appropriate 7mm minus or Type B crushed rock (Porous).

The individual layers must be well tamped/ compacted by hand held machine. Damage to the tank must be avoided during tampering/ compacting of backfill.

Under no circumstances backfill the trench directly from the tip truck. Ensure all tank openings are sealed before backfilling. Backfill around the tank to pipe inlet depth.

STEP 5: PLUMBING OF FEED AND OVERFLOW PIPES

All feed and overflow drain pipes must be laid on a grade of at least 1% in the direction of flow. Subsequent settling is possible and must be considered.

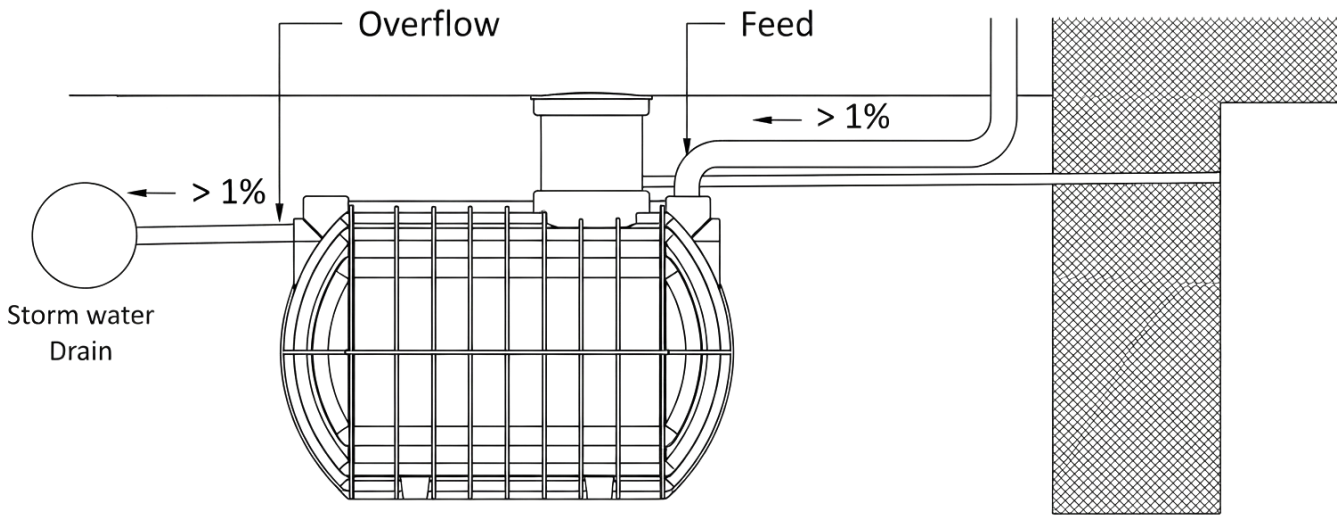
The tank overflow is connected to stormwater. It must be protected against reflux by using a suitable and accessible non-return valve and be in accordance with local regulations.

The Polymaster Underground Tank has a number of flat surfaces at both ends for feed and outlet pipes. Use a 124mm hole saw to drill in the appropriate position.

STEP 6: MOUNTING OF THE SELF-CLEANING VORTEX FILTER

This filter can either be fitted in the ground alongside the tank or mounted to the wall of the house/structure. A minimum one metre of horizontal stormwater pipe must be fitted before the filter.

Before installing filter, check whether a height difference between the rainwater outlet and the tank inlet has sufficient fall to keep stormwater pipe clear at all times. If this cannot be achieved, the filter is best to go on the wall of the adjoining house/structure near the downpipe. The URVF01 is suitable for 200sq metres of roof. For areas larger than this, we recommend the larger capacity URVF15 model.



INSTALLATION (CONT.)

After placing the Vortex filter in hole, make the pipe connections using 100mm SWV pipe. The top half of the filter can rotate 360°, this will enable easier connection to the inlet from the downpipe.

In order for the Vortex filter to function properly, it must be installed exactly vertical.

STEP 7: PLUMBING UP SUBMERSIBLE PUMP

Plumbing fittings have been supplied from pump to brass outlet fitted in tank. Fit these together and screw onto submersible pump.

Mount lifting chain to pump by passing chain through eyebolt and lock with D shackle.

Fit poly pipe fittings to brass outlet in wall of tank.

Mains water can now be plumbed into change over device or pressure switch and outlet pipes to laundry and toilets.

STEP 8: WIRING THE PUMP AND PRESSURE SWITCH

The mains Water Changeover device (Controller) or pressure switch can now be mounted outdoors or indoors onto a flat vertical surface.

Cut off end of pump cable and pass through ¾" plastic outlet in tank wall, into a conduit and then rewire pump cable into plug and controller.

NOTE: A licensed Electrician will be needed to carry out all electrical installations according to the relevant Australian Standards.

STEP 9: INSPECTION AND SERVICING

The entire system must be inspected for leaks at the completion of the work. Settling of soil might occur and consideration needs to be given to allow for such.

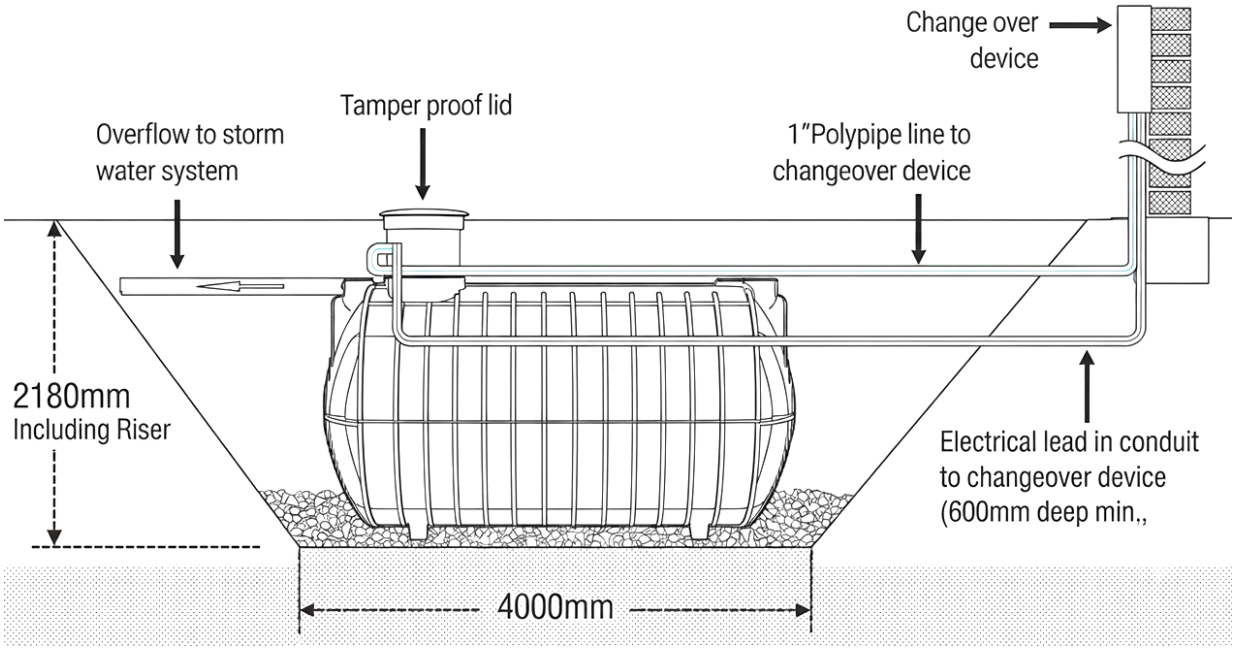
Depending on local conditions, the system may need to be serviced at regular intervals (every 12 months). In this case, all parts of the system should be cleaned thoroughly and their function checked. Servicing should be carried out as follows:

- Isolate water and power connections
- Drain the tank
- Clean surfaces and internal parts with clean water
- Remove any dirt/debris from the tank
- Check that all internal parts are properly positioned and firmly seated

In the event of work carried out inside the tank, reference needs to be made to Occupational Health and Safety legislation pertaining to confined spaces.

STEP 10: LANDSCAPING AND COMMISSIONING

Your tank is now ready to be fully covered in and paved or landscaped over. Tank lid is very strong and will be capable of withstanding 500kgs. A seal is provided under tank lid to prevent ingress of surface water.



PRODUCT SPECIFICATIONS

Feature	URT3300	URT5000
Nominal Capacity (Ltrs)	3300	5000
Safe Fill Limit (Ltrs)	3135	4750
Material of Construction	Hexathene Chem	Hexathene Chem
Tank Dimensions (L x W x H)	2469 x 1639 x 2173 mm	3519 x 1639 x 2173 mm
Manway Height (mm)	1666	1666
Maximum Specific Gravity Rating	1	1
Colour	Black	Black
Standards Compliance	AS/NZS 4766:2016	AS/NZS 4766:2016

RECOMMENDED CARE INSTRUCTIONS

ITEM/AREA OF INTEREST	ACTION RECOMMENDED	FREQUENCY
Overall	All parts of the system should be cleaned thoroughly and their function checked.	12 months

WARRANTY

Polymaster underground tanks come with a 10-year manufacturer's warranty and meet accreditation guidelines guaranteeing a service life of 15 years.

Item	Warranty
Tank	10 years

WARRANTY CONDITIONS

To validate your warranty, all installation instructions must be strictly adhered to. When you submit your warranty, you agree to adhere to the acknowledgement and release outlined below:

"The customer undertakes to install our underground tanks strictly to the manufacturer's directions, recommendations and specifications as contained in the Installation Manual accompanying the tank. In the event of any loss or damage sustained or suffered by the Customer of whatsoever kind or wheresoever situated in the installation of these tanks, the customer agrees that he/she shall not hold the manufacturer (Polymaster) liable and acknowledges and accepts that the customer is wholly liable for such loss and damage and releases the manufacturer from any liability."

WARRANTY NOTE

Please note this warranty applies to the tank only. The submersible pump and automatic mains water changeover device are covered by the appropriate manufacturer's warranty.

To make a warranty claim, you will need your serial number, proof of purchase, and a photo of the product clearly showing the issue.

Submit a claim at **polymaster.com.au/warranty.**

Questions?
Contact Polymaster

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