Eco Water Solutions

PO Box 18 Foxton Beach
021 745 335
www.gorillapumpstations.co.nz

GORILLA PUMP STATIONS
Further and Faster

2100/1100/550/270 Litre Sewage Tank Pump Unit

Installation Instructions

Thank you for purchasing an Eco Water Solutions SP range sewage tank and pump unit. These units are designed for tiny houses, baches, and basement level bathrooms built below the sewer line.

Connections are supplied unglued so that they can be positioned anywhere on the top half of the tank to suit site conditions. Extra pipe is included for different setouts.

Unpacking

The tank is made of 'virgin plastic' polypropylene and is usually transported with the top half wrapped with cling-film. Inside wrapped in bubble-wrap is the discharge isolating valve, and the non-return valve and chain.

The pump is supplied loose packed in a separate carton.

Check that the pump is the required unit and inspect for any damage to tank and fittings.

Visit www.gorillapumpstations.co.nz for a range of pump configurations

Outlet connection

Using a 48mm holesaw, cut hole for outlet pipe at a height of 100 to 700mm below top of tank to suit discharge pipelie.

Inlet Connection

Using a 120mm holesaw, cut hole for inlet at height of 150 to 650mm below top of tank to suit inlet pipe.

There are two secondary connections supplied loose with the tank:

1. Secondary waste pipe connection,
2. 50mm fitting, for 50mm vent pipe connection

3. 50mm fitting for cable exit. Use 50mm suitable pipe as ducting. These will allow for easy pump removal. **Using a smaller size will invalidate the warranty.**

Assembly

When fitting the 110mm o.d. sewer pipe into the sealing ring, it is best to apply soapy water to the ring, to ease insertion of the pipe.

Screw the discharge pipe and non-return valve assembly into the pump outlet.

Lower the pump into the tank using the chain, and then Hang the chain on the hook provided.

Do not use the power cable to lift the pump.

After placing the pump and pipe in the tank, connect the Pipe union to the outlet pipe.

Connect the isolating ball valve to the outlet pipe outside the tank.

When connecting the pipe union and the valve, check that the sealing O-ring is in place, and is not loose in the bottom of the tank.

Ensure that the pump is centred in the tank, and that the float switch is free to move up and down without obstruction.

***Read the pump instruction manual supplied with the pump*.**

Please refer to the tank manufacturer's installation instructions attached for full installation details

For high water tables or soft soil substrates strapping should be attached from dead weight over the top of the tank from the two tie-down points as per manufacturer's instructions

Venting Installation.

Supplied loose with the tank is a 50mm wastewater pipe socket set. This unscrews into two halves. A 60mm diameter hole saw is required for installation.

The purpose of this fitting is to provide connection for a 50mm vent pipe. This is because the tank needs venting as levels can change suddenly within the tank, such as when a toilet is flushed or a sink drained, and levels can also change rapidly when the pump switches on.
A 50mm white plug seal is provided to seal cable into outlet connection.

Cable Installation

An RCD (residual current device) must be used with this product!

A 50mm pipe is required also to act as a conduit for the pump power cable, as any cable installed in-ground requires installation in a conduit. A 50mm electrical (or similar, depending on Local Authority requirements) pipe will pass a 3-pin plug, and this enables installation without cutting the power cable, and so this eliminates the need for an electrician.

A 50mm white plug seal is provided to seal cable into outlet connection.

The power connection fitting is supplied loose so that you can install it in the best position to suit site. To install use a holesaw to cut a hole 60mm diameter, then fit the male part within the tank inserting the threaded portion through the hole, and then screw the female part on to it outside the tank and tighten. Use a plumbquick or similar to connect power ducting to tank connection. There is a white rubber seal bung to place cable into to seal the power outlet.

Tip: *if you ever withdraw the pump from the tank and need to remove the cable, tie a piece of string to the plug so that you can pull it back through the vent pipe later.*

When installing, draw as much cable out through the ducting pipe as possible, rather than let it coil up inside the tank.

>> *Never lift the pump by the cable, as that will damage the pump. Always lift using the handle and/or chain on top of the pump.*

>> *If a riser is required please contact your merchant for specifications and pricing.*

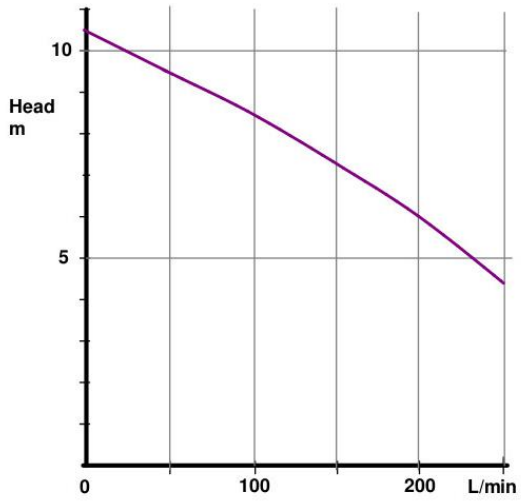
Maintenance

- Tank requires regular checks to ensure no fat or oils have formed at the top of the chamber. **If not regularly checked the float may malfunction which will invalidate warranty.**
- Tank requires checking for solids build-up. Installation is required by a registered plumber.
- Check regularly for build-up of solids or any other matter in pump chambers.
- Periodically wash down the inner walls of the chamber with a high pressure hose to activate pump and thus flush out the chamber.
- Check that the vent pipe is also clean and free of any obstruction.
- A 24-litre grease trap is recommended between kitchen waste pipe and gulley trap.

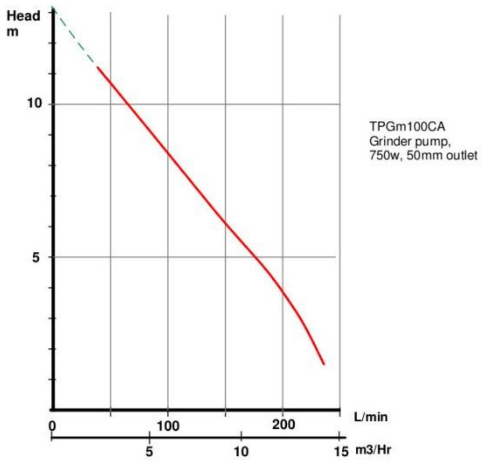
Please check on our website (www.gorillapumpstations.co.nz) for warranty conditions.

Read the pump instruction manual supplied with the pump.

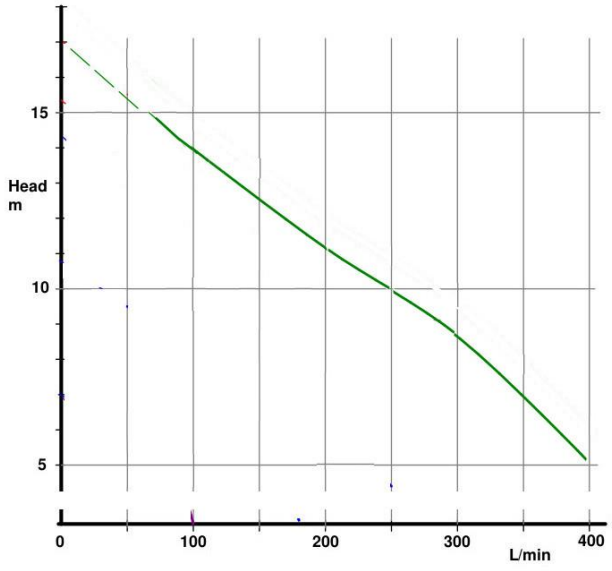
Pump Specs



VH100



TPG100



C-50Z21.5SF

TT PLASTICS – PUMP CHAMBER INSTALLATION INSTRUCTIONS

THANK YOU FOR PURCHASING A PUMP CHAMBER FROM TT PLASTICS

KEEP YOUR PUMP CHAMBER UPRIGHT AT ALL TIMES. FAILURE TO DO THIS WILL VOID YOUR WARRANTY

The Pump Chamber is designed & manufactured to specifications to be installed above ground or underground.

Please read the following instructions before installation.

A) It is recommended that the Pump Chamber be kept upright during transportation, to stop any of the pipework or pump from moving.
B) If Pump Chamber is to be buried, dig a hole large enough for the Chamber to be placed with room for access to the inlet and outlet fittings, and a minimum of 100mm around the diameter of the Chamber for clean backfill material.
C) Ensure that the base of the Chamber, either above ground or underground, is level. Lay quarry dust or sand on the base 50 – 100mm thick.
D) If the Chamber is to be completely buried underground, ensure that provision is made so access to the screw manhole lid is accessible for future servicing.
E) It is recommended if Pump Chamber is buried, to use the 2 tie down points to secure the Pump Chamber to stakes or pins, ensuring the Chamber does not move or rise in the ground.
F) Attach the inlet and outlet pipe mountings and glue them into place. A 40mm thread is provided on top of the Pump Chamber – this is the vent. Pipe vent up and away from the Chamber. If Chamber is close to/next to the dwelling, the vent pipe must exceed roof level of the dwelling. This is to discharge smell above window level.
G) IMPORTANT: Make sure pump is turned off and completely fill Pump Chamber with water before backfilling. This will ensure Pump Chamber will not move during backfilling.
H) Backfill tank with clean light material. Do not use rocks, stony material or heavy clay.
I) Power will need to be supplied to Pump Chamber. All power, including control panels, must be installed in a weatherproof location.
J) Do not drive or walk on Pump Chamber.

TT PLASTICS
Phone: 07 868 6191
Fax: 07 868 3094
Email: sales@ttplastics.co.nz
Website: www.ttplastics.co.nz

TT PLASTICS PUMP CHAMBER WARRANTY

P. 07 868 6191 F. 07 868 3094 S.H.25 Kopu, Thames P.O. Box 479 Thames 3540 E. sales@ttplastics.co.nz www.ttplastics.co.nz

LEGAL LIABILITY – It is the sole responsibility of the Purchaser to ensure the pump chamber is legally compliant for the intended application and whether certification/consent is required by the relevant authority/council for the actual proposed application.

These warranty terms and conditions are applicable to New Zealand. Warranty excludes pump – please refer pump manufacturer's warranty.

1. YOUR TT PLASTICS WARRANTY

TT Plastics (Manufacturer) warrants that this pump chamber will be free from manufacturing defects in workmanship and materials and perform the function for which it is designed, namely the pumping and dispersal of household water and sewage. This warranty extends only to the original purchaser of the product when purchased and originally installed within the boundaries of New Zealand and terminates upon the transfer of ownership by the original purchaser prior to the expiration of the warranty period.

Should any fault occur within the warranty period as the result of a manufacturing defect, subject to the terms and conditions of this warranty, the Manufacturer will, at its discretion:

a. Reimburse the purchaser the value of the chamber (pump chamber price only excluding freight) at the time of purchase; or
b. Replace the tank with a new pump chamber. In such case, the purchaser must pay the difference between the current price of the replacement chamber less the amount determined under paragraph (a). The purchaser must pay the freight costs for the replacement chamber; or
c. Repair the pump chamber. There will be no charge for parts, labour or the freight costs to repair the chamber.

Under no circumstances shall the Manufacturer or any of its representatives be held liable for:

d. Any consequential or other damages, injury or expenses arising from the malfunction of the pump chamber; or
e. Injury to any person or damage to any property; or
f. Non-compliance to any Government, local body or environment council compliance code; or
g. The costs of installation or reinstallation of products; or
h. Loss of income of any description

however arising in respect of the products or their use.
You may have other rights. This warranty is independent of, and does not exclude or limit, any non-excludable statutory warranties by legislation.

2. WARRANTY PERIOD

This manufacturer warranty is valid for 2 years. The warranty period commences on the date of purchase. Repairs and replacements made under this warranty do not alter this warranty period.

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f. Non-compliance to any Government, local body or environment council compliance code; or
g. The costs of installation or reinstallation of products; or
h. Loss of income of any description

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Ref : 23080

ENGINEERING APPRAISAL
OF
ROTATIONAL MOULDED SEPTIC TANK PUMP CHAMBERS
MANUFACTURED BY TT PLASTICS LTD. (270L, 550L, 1100L)
FOR

TT Plastics Ltd

Site : 97 Ngati Maru Highway

KOPU, THAMES

Engineering Appraisal By
MERCURY BAY CIVIL DESIGN (2015) LTD
P.A.RODGERS
CMEngNZ
Lvl 1,33 Albert Street, Whitianga
Ph 07 866 0221

LEVEL 1, 33 ALBERT ST, WHITIANGA
Telephone 07 8660221
Mobile 021 322 377

MERCURY BAY CIVIL DESIGN (2015) LTD.

CONSULTING ENGINEERS

PRODUCER STATEMENT -- PS1 -- DESIGN
(PS1 Format as adopted by IPENZ, January 2007)

ISSUED BY: MERCURY BAY CIVIL DESIGN (2015) LTD.
(Design Firm)

TO: TT PLASTICS LTD.
(Owner/Developer)

TO BE SUPPLIED TO: THE LOCAL TERRITORIAL AUTHORITY - ( )
(Building Consent Authority)

IN RESPECT OF: ENGINEERING CERTIFICATION : ROTO MOULDED SEPTIC TANK PUMP CHAMBER (270L, 550L, 1100L)
(Description of Building Work)

AT: MANUFACTURED AT 97 NGATI MARU HIGHWAY, KOPU, THAMES
(Address)

LOT: _____ DP: _____ SO: _____

We have been engaged by the owner/developer referred to above to provide : ENGINEER ASSESSMENT / APPRAISAL OF PLASTIC SEPTIC TANKS services in respect of the requirements of
(Extent of Engagement)

Clause(s) G13 of the Building Code for
All ☐ or Part ☑ only (as specified in the attachment to this statement), of the proposed building work.

The design carried out by us has been prepared in accordance with:

☐ Compliance Documents issued by Department of Building & Housing AS/NZS 1546.1.2008
(verification method / acceptable solution)

or

☐ Alternative solution as per the attached schedule

The proposed building work covered by this producer statement is described on the drawings titled TT PLASTICS LTD. and numbered 23080 together with the specification, and other documents set out in the schedule attached to this statement.

On behalf of the Design Firm, and subject to:

(i) Site verification of the following design assumptions : N/A

(ii) All proprietary products meeting their performance specification requiremen PER AS/NZS 1546.1.2008

I believe on reasonable grounds the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code.

I, Peter Rodgers am, CMEngNZ 263087
(Name of Design Professional)

I am a Member of : IPENZ ☑ NZIA ☐ and hold the following qualifications: BEng (Hons)

The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*.

The Design Firm is a member of ACENZ : YES ☐ NO ☑

SIGNED BY : P.A. RODGERS ON BEHALF OF : MERCURY BAY CIVIL DESIGN (2015) LTD
(Design Firm)

Date : 20 NOVEMBER 2023 (signature) P.A. Rodgers CPEng.

THIS PS1 IS CONSIDERED EFFECTIVE FOR A PERIOD OF 3 YEARS FROM THE DATE OF SIGNATURE.
RE-ASSESSMENT OF MANUFACTURED SEPTIC TANKS (270L, 550L 1100L) REQUIRED AFTER 20 NOV 2026

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of $200,000*.

This form is to accompany Form 2 of the Building (Forms) Regulations 2004 for the application of a Building Consent.

Mercury Bay Civil Design Ltd. neither assume nor acrue any liability for the carrying out of building work in which these documents have

1ST floor, 33 Albert Street, Whitianga
Telephone 07 866 0221
Mobile 021 322377

Mercury Bay Civil Design (2015)Ltd
Consulting Engineers

20 November 2023

Engineering Assessment:	Plastic Septic Tank Pump Chamber (270L, 550L, 1100L) to AS/NZS 1546.1.2008
Site:	97 Ngati Maru Highway, Kopu, Thames
Client:	TT Plastics Ltd
Consent No:	
Inspection by:	Peter Rodgers (CPEng)
MBCD Job No:	23080

Introduction:

TT Plastics Ltd have engaged Mercury Bay Civil Design (2015) Ltd. to undertake an engineering review of the construction of a series of LDPE rotational-moulded septic tank pump chambers. The review includes confirming that the septic tank pump chambers have been constructed in accordance with the provisions of AS/NZS 1546.1.2008. The review additionally considers and confirms that the septic tank pump chambers are considered appropriate for use as primary treatment septic tank(s) when connected in series and may also be utilised as appropriate to install as a follow-on additional treatment chamber where required to provide upgrading of an existing wastewater treatment system.

Observation / Discussion:

MBCD(2015)Ltd have undertaken visual observation of a series of plastic septic tank pump chambers at the manufacturing premises of TT Plastics Ltd. MBCD(2015)Ltd have witnessed test results and photos of various testing undertaken and confirm that all tests have passed a minimum quality control benchmark. Refer to photos included herein.

The following tests have been undertaken to provide assurance that the manufacture of this series of LDPE primary treatment septic tanks meets the minimum requirements as set out in the relevant NZ standard.

- Tank material thickness. Exceeds minimum 6mm as stipulated in AS/NZS 1546.1
- Load testing of top of tank and lid structure. 500kg applied without any deformation.
- Flood testing for leakage. LDPE tanks are watertight.
- Submerged testing for leakage and deformation.
- Point load impact and indentation testing.

The series of septic tank pump chambers are considered suitable for burying to the depth of the tank (lid level) in most soil types. Property owners should be aware that each of these tanks shall not be left in an emptied state for any long duration of time, to avoid excessive sidewall deformations from shifting soils. Where a tank is fully buried (to lid depth only), it shall be a requirement that an independent riser be located over the access lid to the tank. These septic tanks are not suitable for placing in locations that may receive vehicular loads.

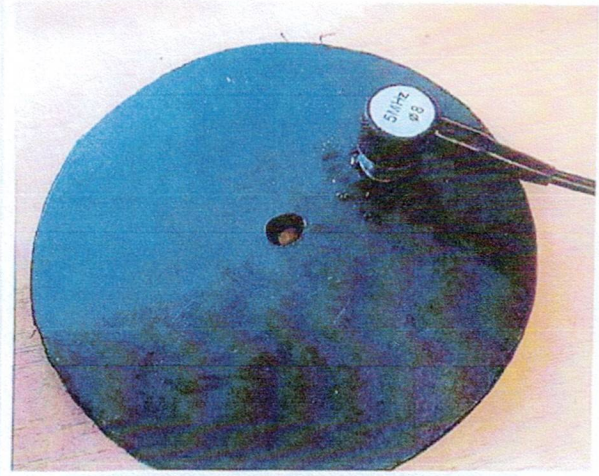
Conclusion:

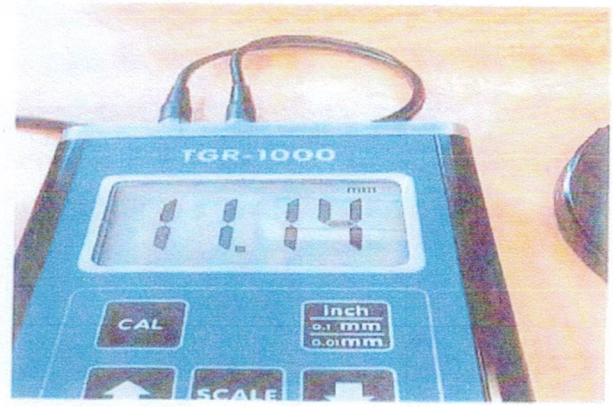
A series of 3 sizes of LDPE rotationally moulded primary treatment septic tanks have been evaluated against the minimum requirements of AS/NZS 1546.1.2008. All 3 tanks sizes are considered to meet the minimum requirements of the applicable NZ standard. In that regard an engineers PS1 is now issued and considered to be in effect for a period of 3 years from the date of issue of the PS1. At the end of that period, it shall be a requirement that a further series of assessment testing is undertaken to provide up to date assurances that manufacturing still meets the minimum requirements of AS/NZS 1546.1.2008

P. A. Rodgers (CPEng) P.A. Rodgers CPEng.

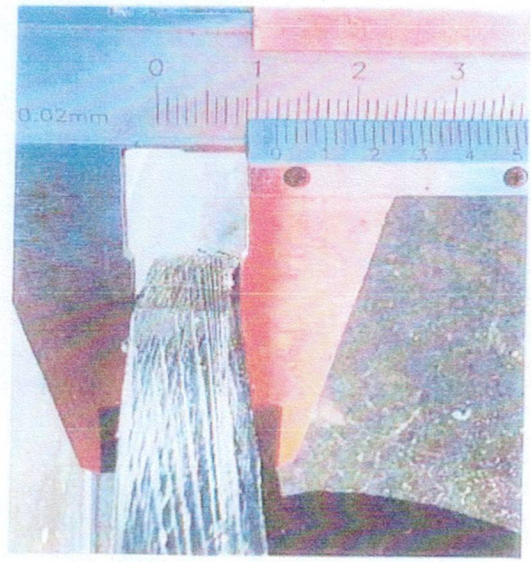
For:
Mercury Bay Civil Design (2015) Ltd.

Testing Photos: August-September 2023



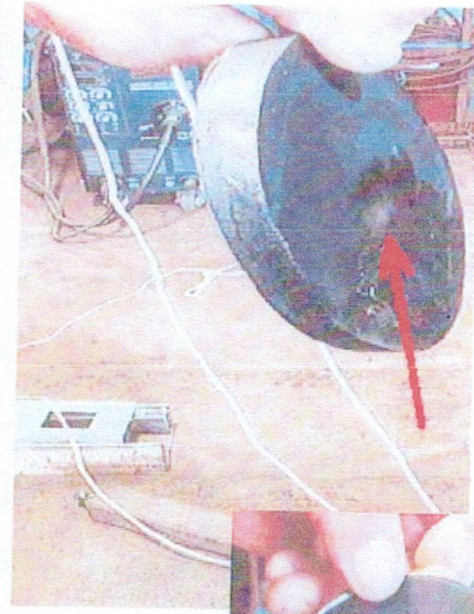


Photos 1 and 2: Material thickness testing.



Photos 3 and 4: Material thickness testing. Base, sidewall and top all well in excess of 10mm wall thickness.

Photos 5 and 6: Flood testing for leakage. Top load testing, 500kg applied.



Photos 7, 8, and 9: Impact testing for puncture resistance. Impact energy applied as per AS/NZS 1546.1.2008, without any punctures.

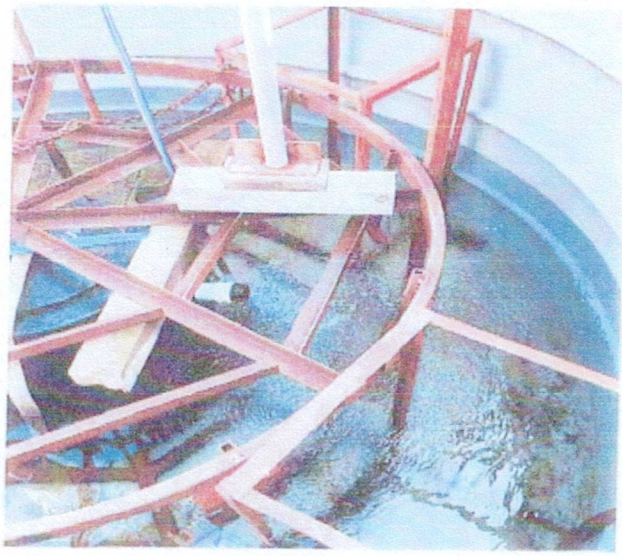


Photo 10: Submersion testing. Held fully subnmerged for a period of 24 hours, without leakage.

270L PS1 Certified Tank

GORILLA PUMP STATIONS

Weight: 25Kg.

Maximum Capacity: 270L

850mm
High

710mm Diameter

450mm lid diameter

www.gorillapumpstations.co.nz

550L PS1 Certified Tank

GORILLA PUMP STATIONS

Weight: 35Kg

Maximum Capacity: 605L

1080mm
High

890mm Diameter

450mm lid diameter

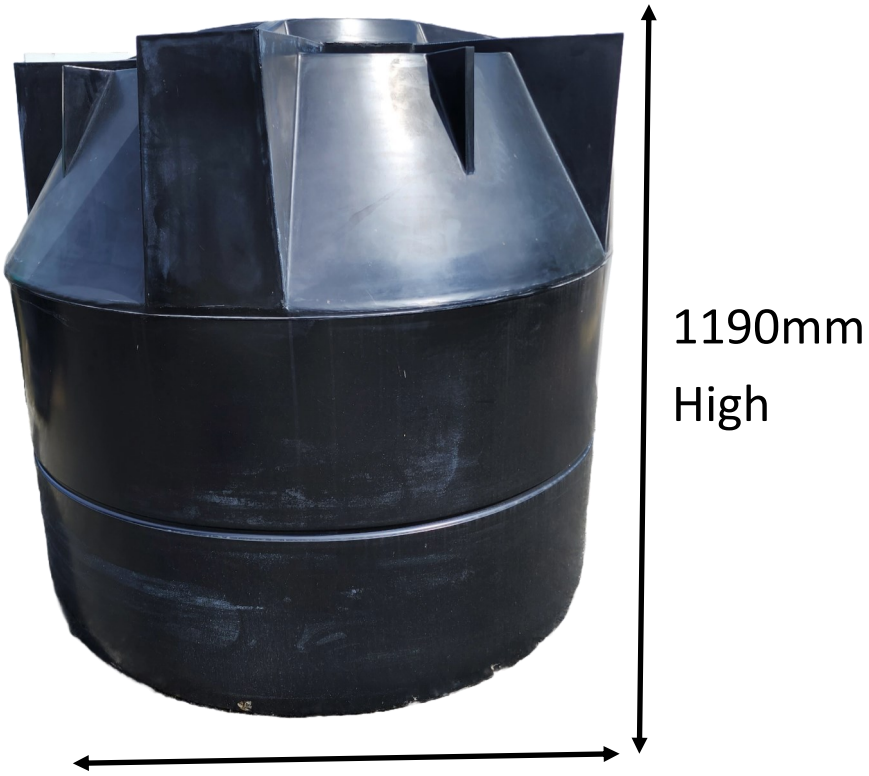
www.gorillapumpstations.co.nz

1100L PS1 Certified Tank

GORILLA PUMP STATIONS

Weight: 60Kg

Maximum Capacity: 1410L



www.gorillapumpstations.co.nz

2100L PS1 Certified Tank

GORILLA PUMP STATIONS

1700mm
High

1330mm Diameter

450mm lid diameter

www.gorillapumpstations.co.nz