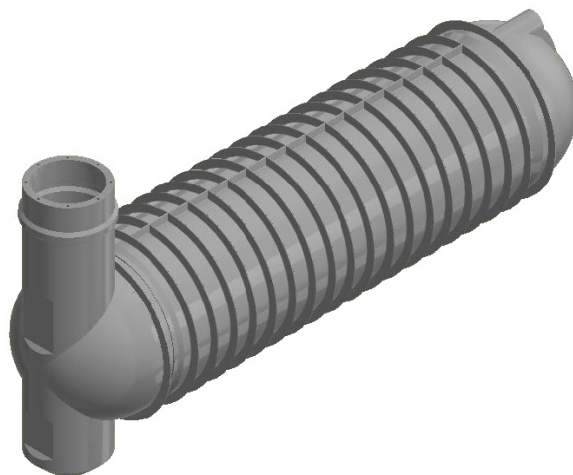


RELIABLE  
STORMWATER  
MANAGEMENT

# INSTALLATION GUIDE

V2



# **CONTENTS**

**INSTALLATION NOTES**

**DIMENSIONS**

**TYPICAL LAWN INSTALL**

**TYPICAL DRIVE INSTALL**

**PLASTIC LID DETAIL**

**RISER ADJUSTMENT**

**CAST IRON LID ADAPTOR**

**GROUND COMPRESSION ANCHOR CHART**

**GROUND COMPRESSION ANCHOR INSTALL**

**GROUND COMPRESSION ANCHORS DETAIL**

**MULTIPLE TANKS**

**OVERFLOW KIT**

# INSTALLATION NOTES

Devan stormVAULT underground tanks 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.

## 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. 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 850mm. (The height of the manway.)

## 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.**

## Ground Water Anti-Flotation

The tanks are designed to resist flotation in some instances, please see ground anchor chart to determine if anchoring is required

## Health & Safety

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

## Surface Runoff

Divert surface runoff away from tanks.

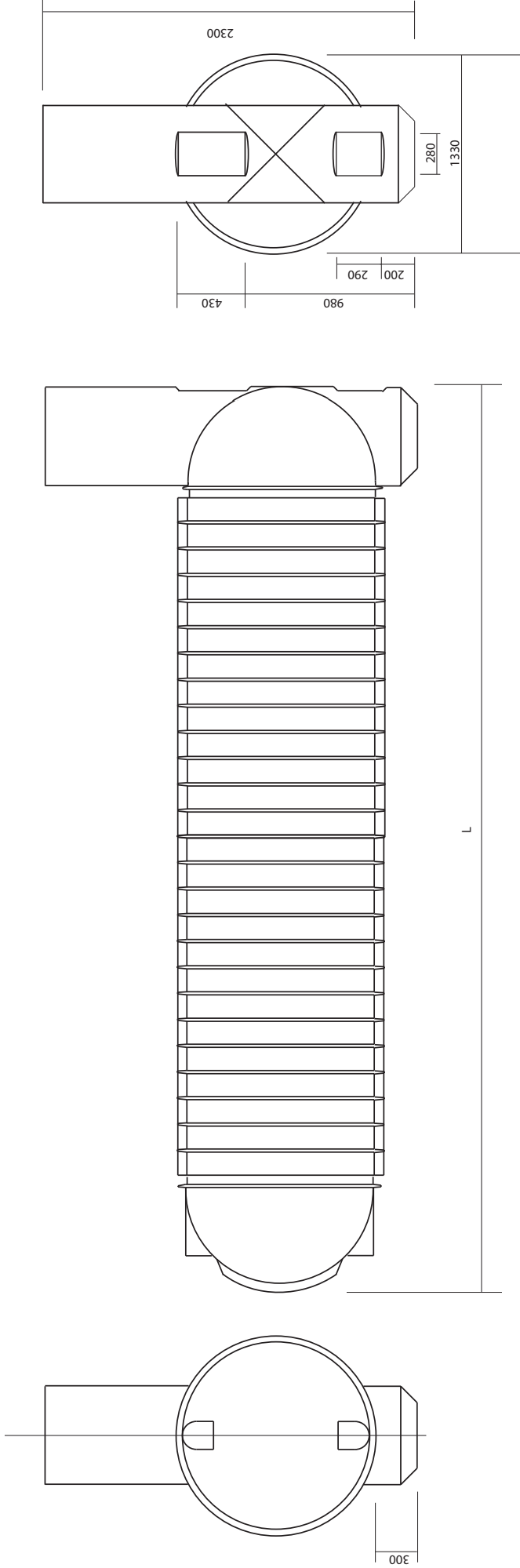
## Warranty

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.

# DIMENSIONS



Code	Tank Volume	L* (m)	Weight (kg)	Code	Lid Type
SVR12-02	2,000L	2.3	170	SVALP	stormVAULT Plastic lid
SVR12-03	3,000L	3.2	225	SVALTC	Cast Iron Lid class D - Commercial trafficable
SVR12-04	4,000L	4.15	288	SVALAR	stormVAULT Adaptor ring and temporary lid
SVR12-045	4,500L	4.55	314		
SVR12-05	5,000L	5.05	348	<b>Code</b>	<b>Other</b>
SVR12-06	6,000L	5.95	409	SVGA-12	stormVAULT Ground anchor set - 1200mm
SVR12-07	7,000L	6.9	473	SVAO100	stormVAULT 100mm overflow kitset
SVR12-075	7,500L	7.35	503		
SVR12-08	8,000L	7.85	537		
SVR12-09	9,000L	8.75	597		
SVR12-10	10,000L	9.65	658		

\*Length can vary up to 100mm longer due to manufacturing process

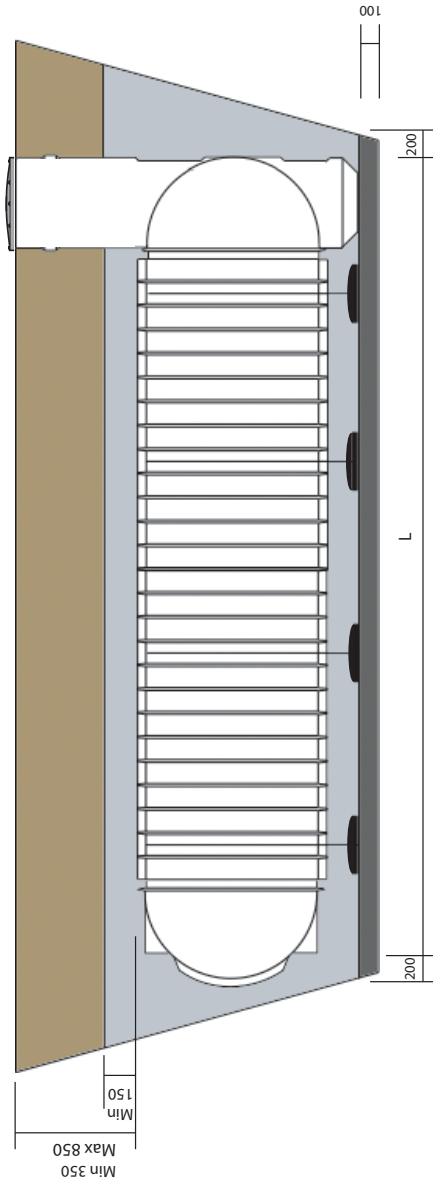


Underground tank complete - 1200mm

# TYPICAL LAWN INSTALL

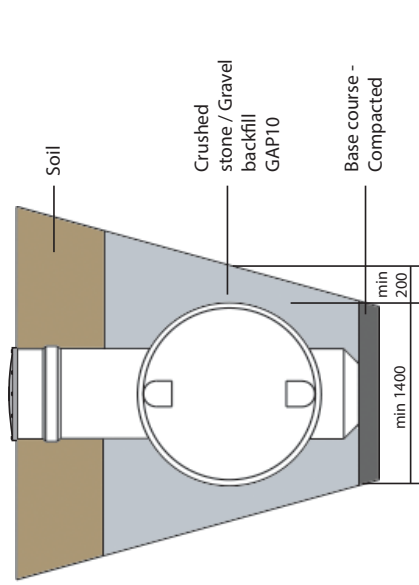
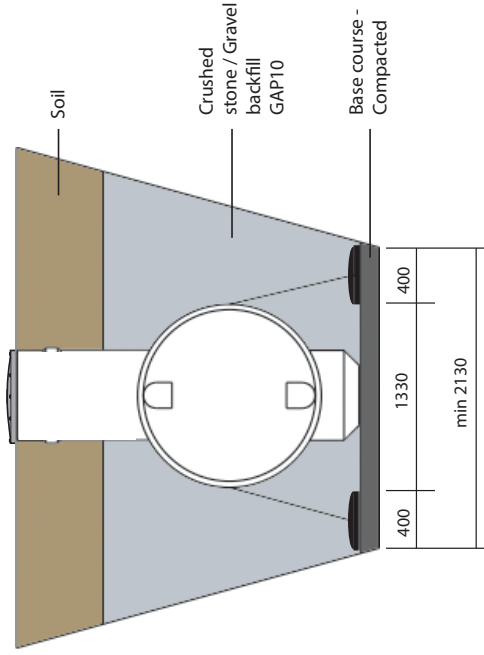
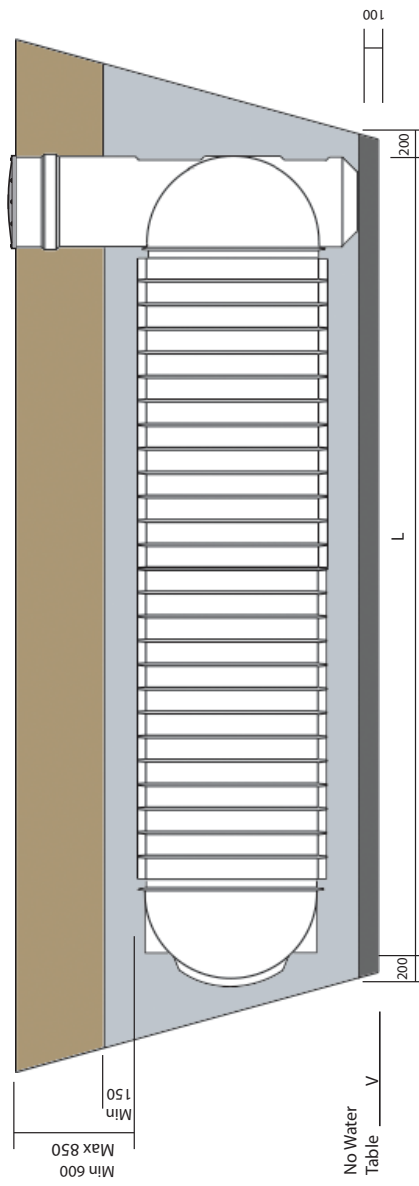
For full installation detail see the installation drawings specific to this installation

With Anchors



See stormVAULT installation drawings - In lawn for full instructions

Without Anchors

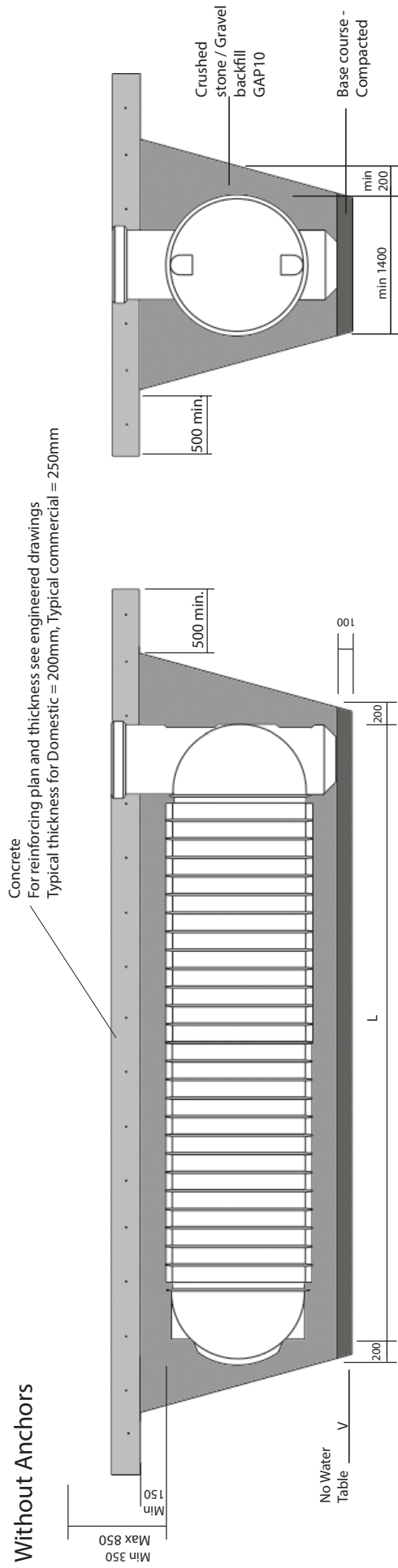
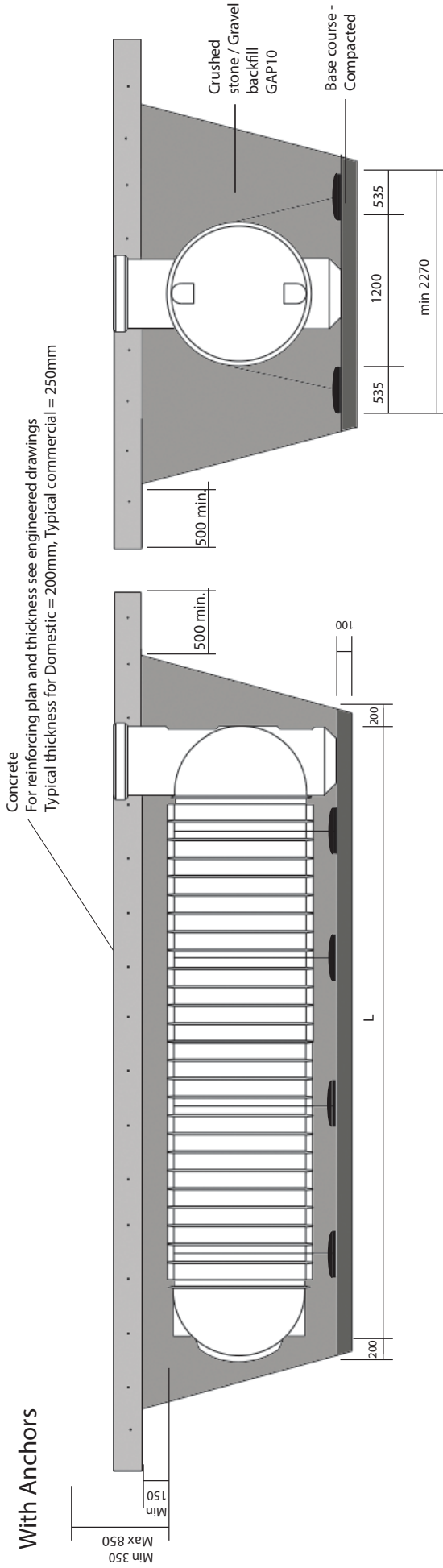


Backfill detail - 1200 Series Typical Lawn installation

No Water Table

# TYPICAL DRIVE INSTALL

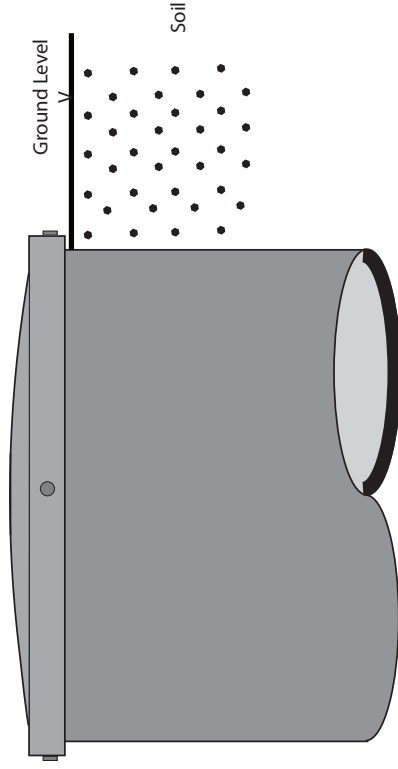
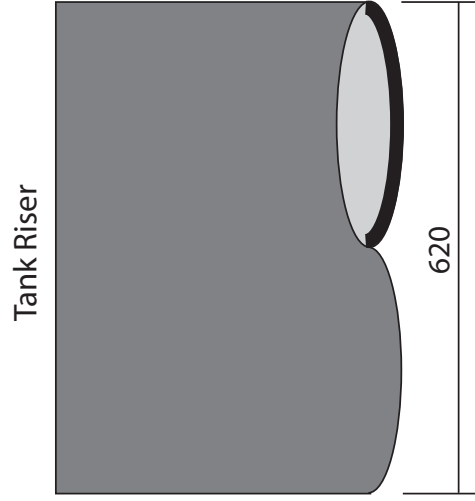
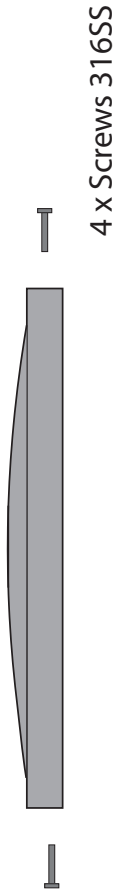
For full installation detail see the installation drawings specific to this installation



Backfill detail - 1200 Series Concrete Drive installation



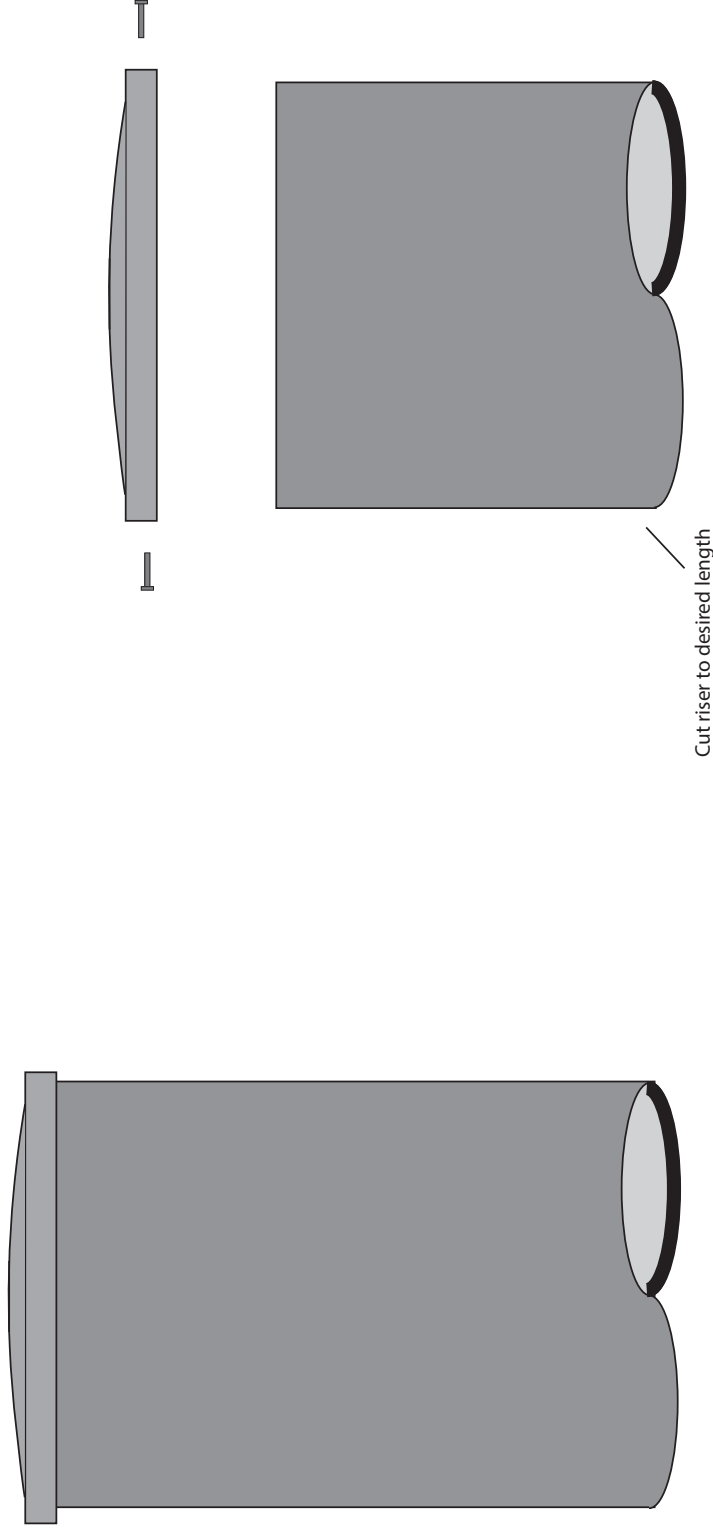
# PLASTIC LID DETAIL



### Important Notes:

- All lid bolts to be fully installed and tight to prevent access by children
- Top of lid must not be buried
- Slope ground away to prevent flooding or surface water build up

# RISER ADJUSTMENT



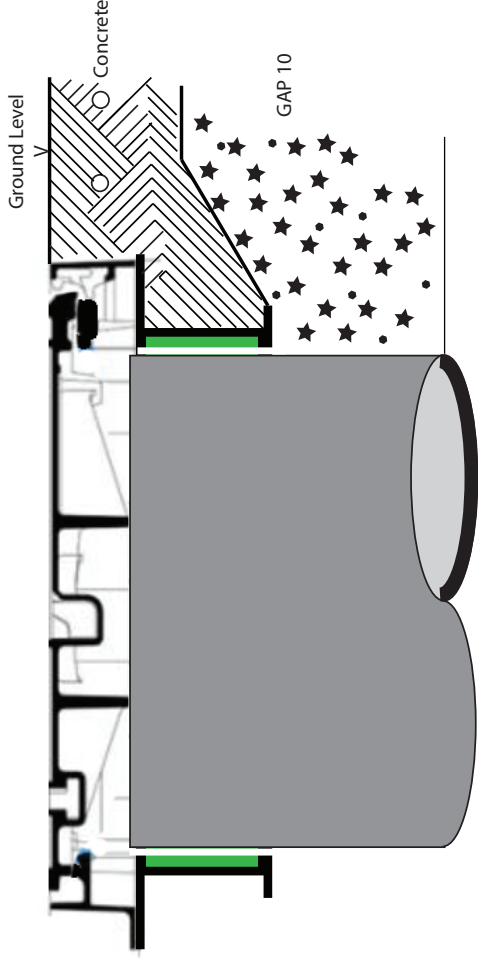
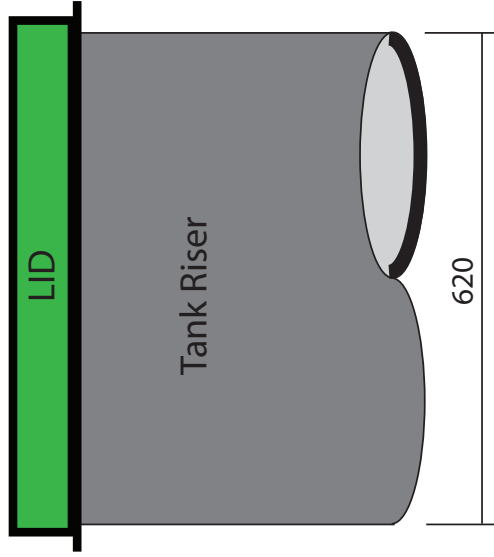
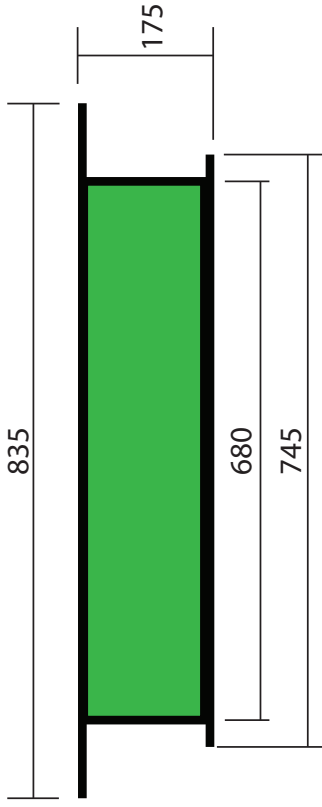


# CAST IRON LID ADAPTOR

Cast Iron Manway



Adjustment Ring



**Important Notes:**

- Top of riser should protrude past the top of Adjustment ring 20mm to 40mm
- Use adjustment ring to match drive slope if required, maximum 5 degrees
- Do not attach adjustment ring to tank riser
- For reinforcing plan and thickness see engineered drawings
- Lid fully installed to prevent access by children
- Top of lid must not be buried
- Slope ground away to prevent flooding or surface water build up

# GROUND ANCHOR CHART

SIZE Total fill height over body of tank

10m3	350mm			450mm			550mm			650mm		
	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10
<b>Water Table</b>	7	6	4	6	4	0	4	0	0	4	0	0
<b>0.00</b>	7	6	4	6	4	0	4	0	0	4	0	0
<b>0.25</b>	7	6	4	6	4	0	4	0	0	4	0	0
<b>0.50</b>	6	6	4	6	4	0	4	0	0	4	0	0
<b>0.75</b>	4	0	0	4	0	0	0	0	0	0	0	0
<b>1.00</b>	0	0	0	0	0	0	0	0	0	0	0	0

9m3	350mm			450mm			550mm			650mm		
	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10
<b>Water Table</b>	7	5	4	5	4	0	4	0	0	4	0	0
<b>0.00</b>	7	5	4	5	4	0	4	0	0	4	0	0
<b>0.25</b>	7	5	4	5	4	0	4	0	0	4	0	0
<b>0.50</b>	5	5	4	5	4	0	4	0	0	4	0	0
<b>0.75</b>	4	0	0	4	0	0	0	0	0	0	0	0
<b>1.00</b>	0	0	0	0	0	0	0	0	0	0	0	0

8m3	350mm			450mm			550mm			650mm		
	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10
<b>Water Table</b>	6	5	4	5	4	0	4	0	0	4	0	0
<b>0.00</b>	6	5	4	5	4	0	4	0	0	4	0	0
<b>0.25</b>	6	5	4	5	4	0	4	0	0	4	0	0
<b>0.50</b>	5	5	4	5	4	0	4	0	0	4	0	0
<b>0.75</b>	4	0	0	4	0	0	0	0	0	0	0	0
<b>1.00</b>	0	0	0	0	0	0	0	0	0	0	0	0

7m3	350mm			450mm			550mm			650mm		
	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10
<b>Water Table</b>	5	4	4	4	3	0	4	0	0	4	0	0
<b>0.00</b>	5	4	4	4	3	0	4	0	0	4	0	0
<b>0.25</b>	5	4	4	4	3	0	4	0	0	4	0	0
<b>0.50</b>	4	4	3	4	3	0	4	0	0	4	0	0
<b>0.75</b>	3	0	0	3	0	0	0	0	0	0	0	0
<b>1.00</b>	0	0	0	0	0	0	0	0	0	0	0	0

6m3	350mm			450mm			550mm			650mm		
	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10
<b>Water Table</b>	5	4	4	4	4	3	4	0	0	4	0	0
<b>0.00</b>	5	4	4	4	4	3	4	0	0	4	0	0
<b>0.25</b>	5	4	4	4	4	3	4	0	0	4	0	0
<b>0.50</b>	4	4	3	4	4	3	4	0	0	4	0	0
<b>0.75</b>	3	0	0	3	0	0	0	0	0	0	0	0
<b>1.00</b>	0	0	0	0	0	0	0	0	0	0	0	0

SIZE Total fill height over body of tank

5m3	350mm			450mm			550mm			650mm		
	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10
<b>Water Table</b>	4	3	3	3	3	0	3	0	0	3	0	0
<b>0.00</b>	4	3	3	3	3	0	3	0	0	3	0	0
<b>0.25</b>	4	3	3	3	3	0	3	0	0	3	0	0
<b>0.50</b>	4	3	3	3	3	0	3	0	0	3	0	0
<b>0.75</b>	3	0	0	3	0	0	0	0	0	0	0	0
<b>1.00</b>	0	0	0	0	0	0	0	0	0	0	0	0

4m3	350mm			450mm			550mm			650mm		
	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10
<b>Water Table</b>	4	3	3	3	3	0	3	0	0	3	0	0
<b>0.00</b>	4	3	3	3	3	0	3	0	0	3	0	0
<b>0.25</b>	4	3	3	3	3	0	3	0	0	3	0	0
<b>0.50</b>	4	3	3	3	3	0	3	0	0	3	0	0
<b>0.75</b>	3	0	0	3	0	0	0	0	0	0	0	0
<b>1.00</b>	0	0	0	0	0	0	0	0	0	0	0	0

3m3	350mm			450mm			550mm			650mm		
	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10
<b>Water Table</b>	3	2	2	2	2	0	2	0	0	2	0	0
<b>0.00</b>	3	2	2	2	2	0	2	0	0	2	0	0
<b>0.25</b>	3	2	2	2	2	0	2	0	0	2	0	0
<b>0.50</b>	3	2	2	2	2	0	2	0	0	2	0	0
<b>0.75</b>	3	0	0	3	0	0	0	0	0	0	0	0
<b>1.00</b>	0	0	0	0	0	0	0	0	0	0	0	0

2m3	350mm			450mm			550mm			650mm		
	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10	with 0mm GAP10 (soil only)	with 150mm GAP10	with 250mm GAP10
<b>Water Table</b>	2	2	2	2	2	0	2	0	0	2	0	0
<b>0.00</b>	2	2	2	2	2	0	2	0	0	2	0	0
<b>0.25</b>	2	2	2	2	2	0	2	0	0	2	0	0
<b>0.50</b>	2	2	2	2	2	0	2	0	0	2	0	0
<b>0.75</b>	2	0	0	2	0	0	0	0	0	0	0	0
<b>1.00</b>	0	0	0	0	0	0	0	0	0	0	0	0

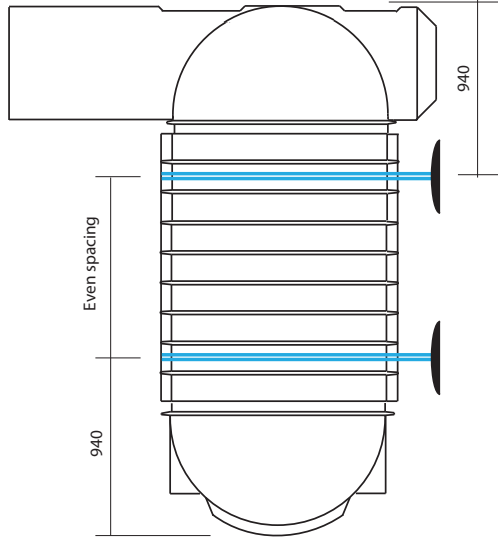
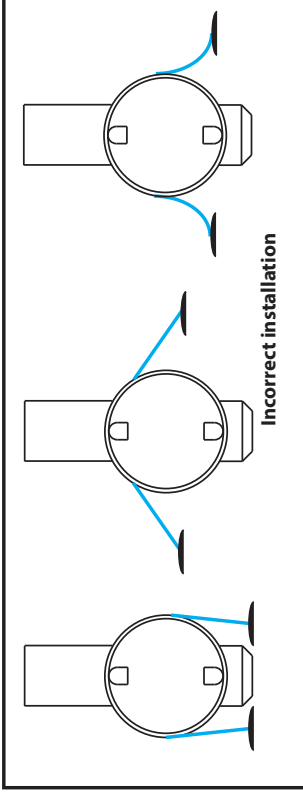
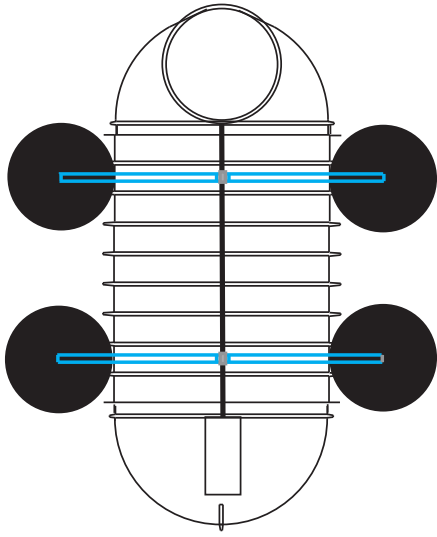
Water Table

0.0m = Water at surface level  
 0.25m = Water 0.25m below ground level  
 0.50m = Water 0.50m below ground level  
 0.75m = Water 0.75m below ground level  
 1.0m = Water 1.0m below ground level

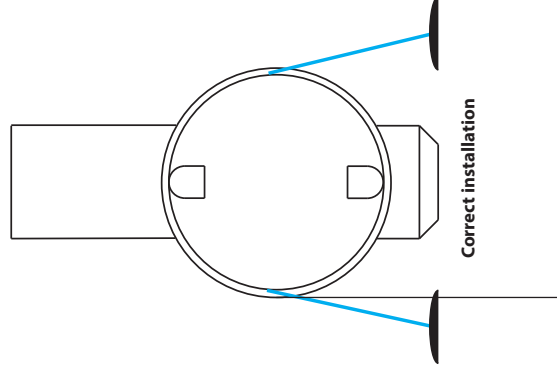
Total fill height is soil plus GAP10 (if any)

Example 450mm total height with 250mm GAP10  
 = 250mm GAP10 + 200mm soil (450mm)

# GROUND ANCHOR INSTALL



Two anchors must be located 940 from end of tank



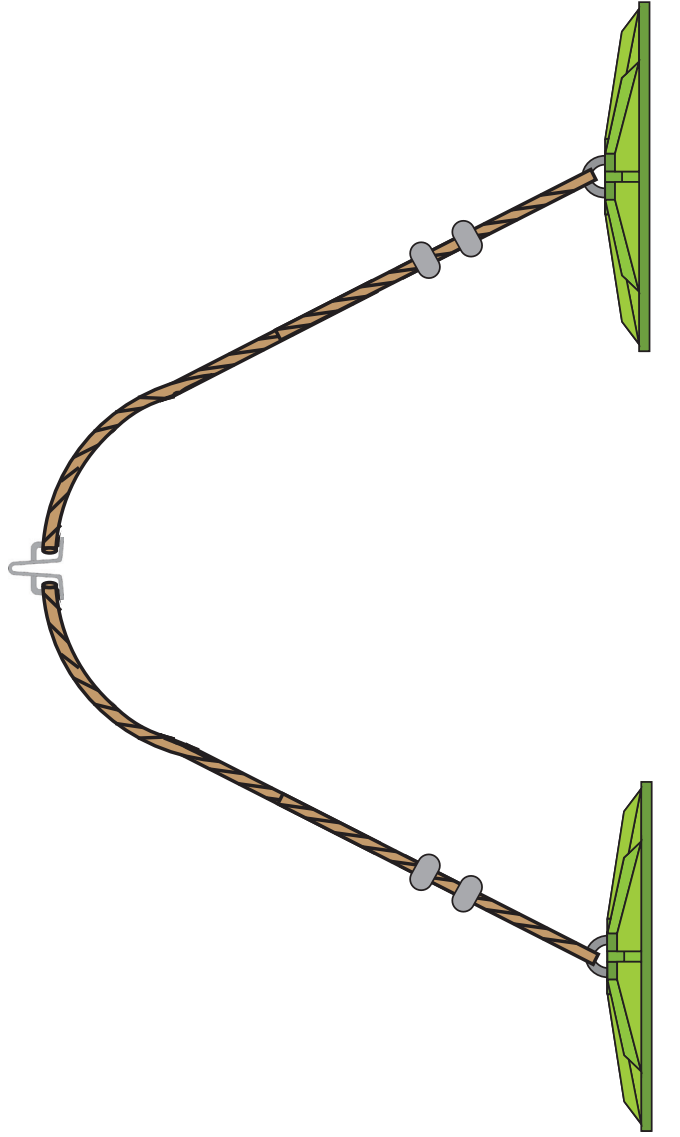
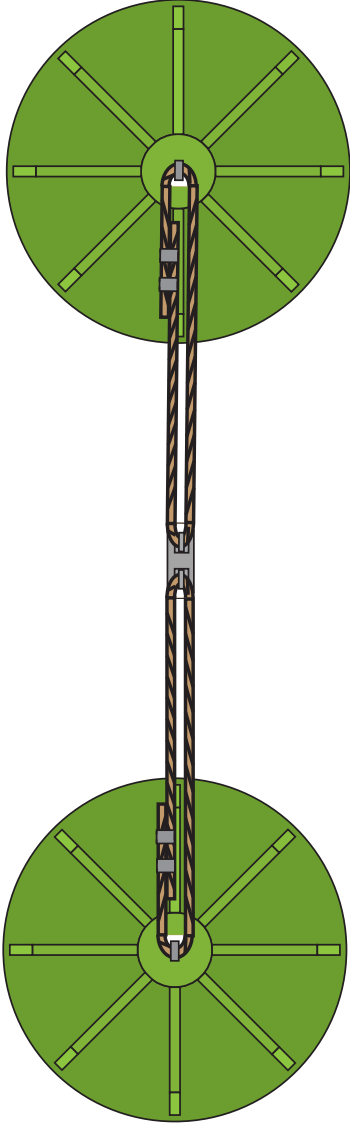
90% of disc must be outside shadow of tank

## Important Installation Notes:

- Pads must be installed level
- Pads should be in line with bottom of culvert section of tank
- Rope must not be slack, use pegs to hold pads in position
- Check rope grips are tight
- Pads must be installed outside of tank shadow to be effective

Ground Compression Anchors - 1200mm

# GROUND ANCHORS DETAIL



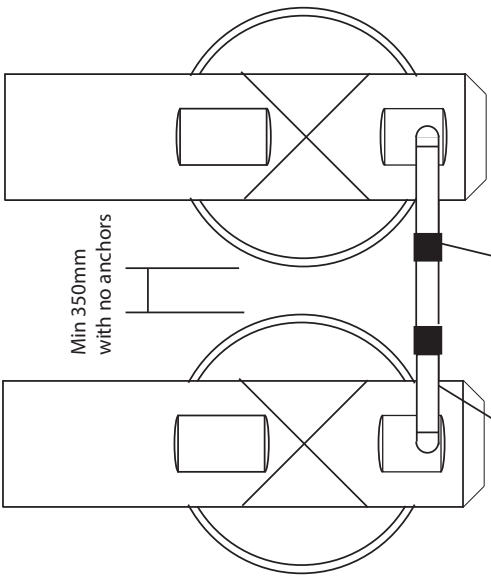
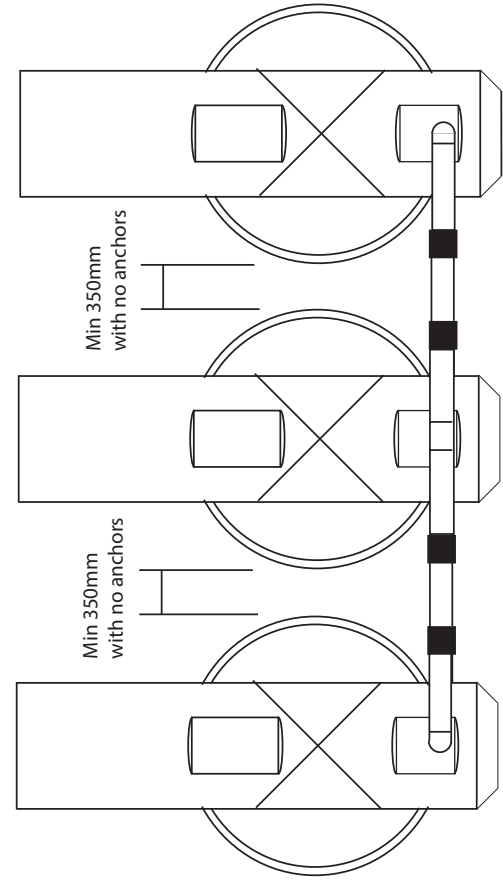
stormVAULT Stainless steel redundancy bracket (316)

16mm Polypropylene rope

16mm Stainless steel rope grips (316)

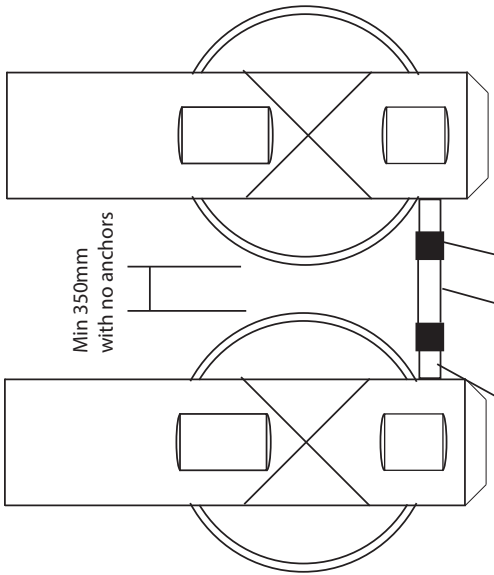
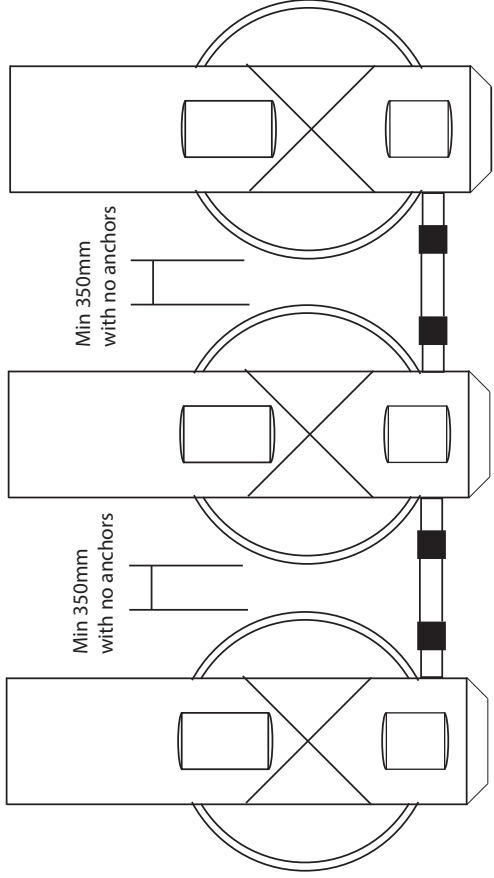
stormVAULT Compression Anchor - (530mm diameter)

# MULTIPLE TANKS



PVC Elbow/Tee and pipe  
Wallace seal to be ordered if  
required

Plumbquick type coupling must  
comply with S/NZS 4327.  
NOT SUPPLIED



110mm PE stub or  
160mm PE stub

Plumbquick type coupling must  
comply with S/NZS 4327.  
NOT SUPPLIED

100mm or 150mm DWV  
NOT SUPPLIED

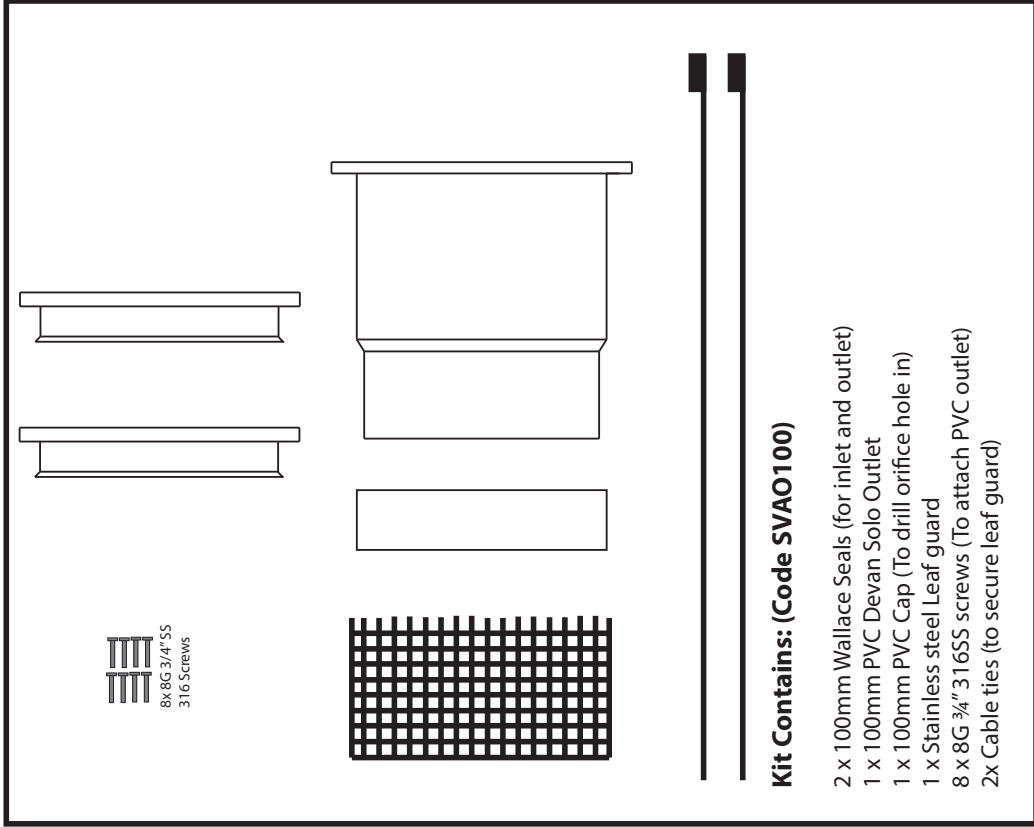
By request only - must  
be ordered prior to  
manufacture. Charges  
apply

Option 1 -  
Onsite

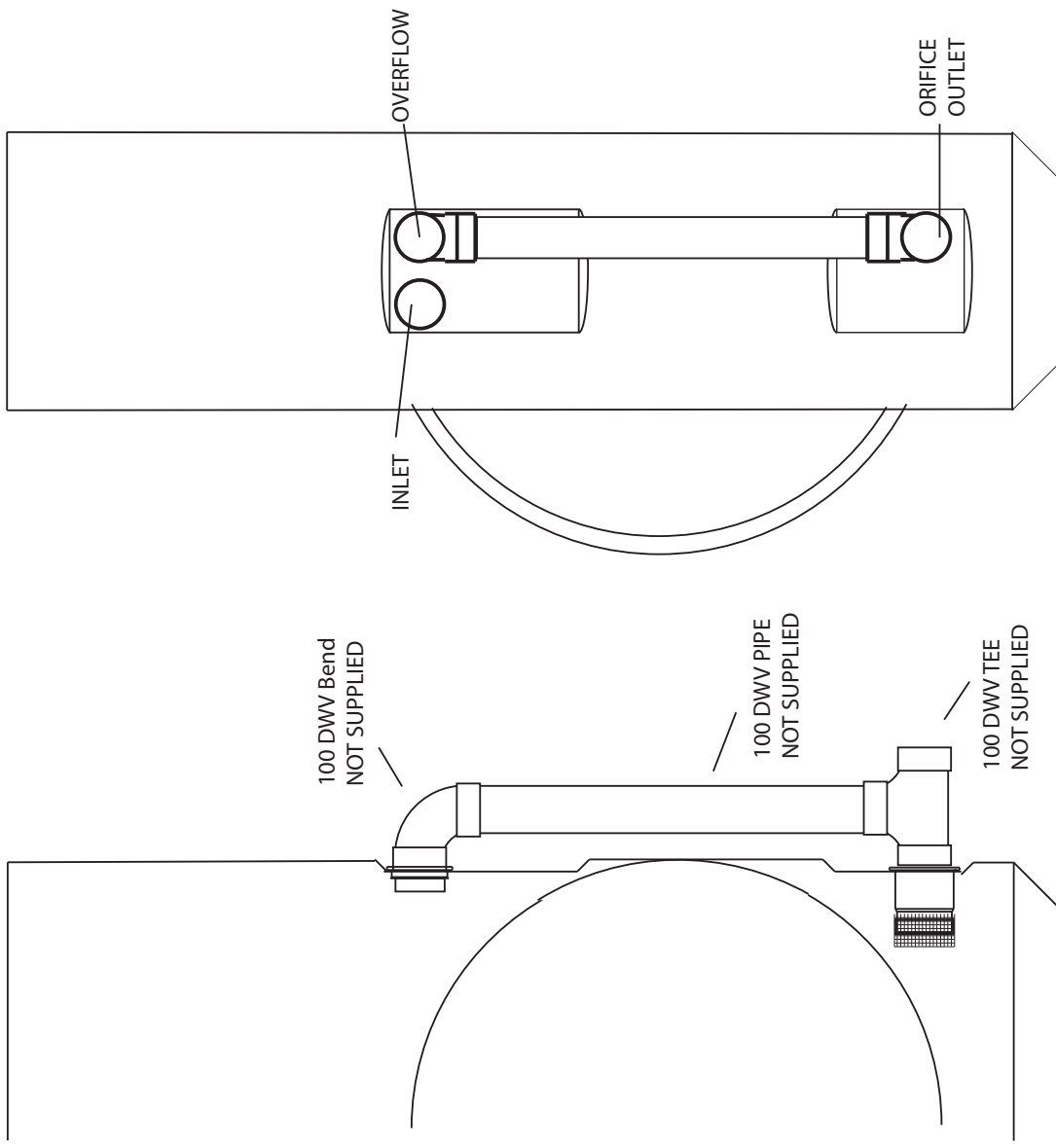
Option 2 -  
PE stubs



1200 Series - Multi tank connection



**Typical Installation:**



**You will need:**

- 121 mm hole saw (for PVC outlet and Wallace seals)
- Square drive bit for screws
- You will need Neutral cure silicone (to seal flange on PVC Solo Outlet)
- 1x 100mm DWV tee
- 1x 100mm DWV bend 90
- 100mm DWV pipe
- Drill bit to suit orifice size

# NOTES:



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Christchurch  
Phone: 03 421 7340  
Free Phone: 0800 500 026  
Email: [christchurch@devan.co.nz](mailto:christchurch@devan.co.nz)

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