

Australian
Standard
AS/NZS
1546.1
Lic 1950
Septic Tanks



POLYMER PUMP WELL

450 / 250 L

Tested to comply with AS/NZS 1546.1.1998

Assembly and Installation Instructions

for on-site domestic waste-water treatment and disposal systems

PARTS SUPPLIED WITH EACH POLYMER PUMP WELL:

- | | | |
|----|---|---|
| 1: | 1 | moulded Plastic Pump Well Assembly |
| 2: | 1 | moulded Plastic Access Cover |
| 3: | 6 | Stainless Steel Screws |
| 4: | 2 | standard elastomeric rubber rings for 100mm uPVC SWV pipe |

SUGGESTED LIST OF PARTS REQUIRED FOR INTERNAL PUMP ARRANGEMENT

**NOTE - This is ONLY a guide - Pump Kits are NOT available from EVERHARD
and actual components required will depend on the pump selected and the installation function.**

- | | | | | | |
|-----|---|---|-----|---|------------------------------------|
| 5: | 1 | Pump Reducer Bush with 25BSP (F) outlet | 12: | 1 | 25mm uPVC pipe x 100mm long |
| 6: | 1 | Submersible Pump suitable for purpose | 13: | 1 | 25mm x 32mm uPVC Reducing Bush |
| 7: | 1 | 25BSP(M)x 25mm uPVC Valve Adaptor | 14: | 1 | 32BSP(F) x 32mm uPVC Valve Adaptor |
| 8: | 2 | 25mm uPVC pipe x 300mm long | 15: | 1 | 32BSP(M) x 25BSP(F) Reducing Bush |
| 9: | 2 | 25mm uPVC 45 degree elbow | 16: | 1 | 25BSP (M/F) 90 degree elbow |
| 10: | 1 | 25mm uPVC pipe x 330mm long | 17: | 2 | 25BSP(M) x 19mm Barb-tail Adaptor |
| 11: | 1 | 25mm uPVC screwed Barrel Union | 18: | 1 | 19mm Lilac Hose |
| | | | 19: | 1 | 25BSP Lilac Dome Sprinkler |

*** Check with your local authority before selecting any part of a Waste-water disposal system.*
Refer Notes on back page.**

The Polymer Pump Well should be located in areas not exposed to any vehicle or regular pedestrian traffic. It should be installed in an area set aside for garden use, and finally covered with bark or garden mulch after installation is complete. Where the Pump Well is in a high water table area extra anchorage may be required. See "ANCHORAGE".

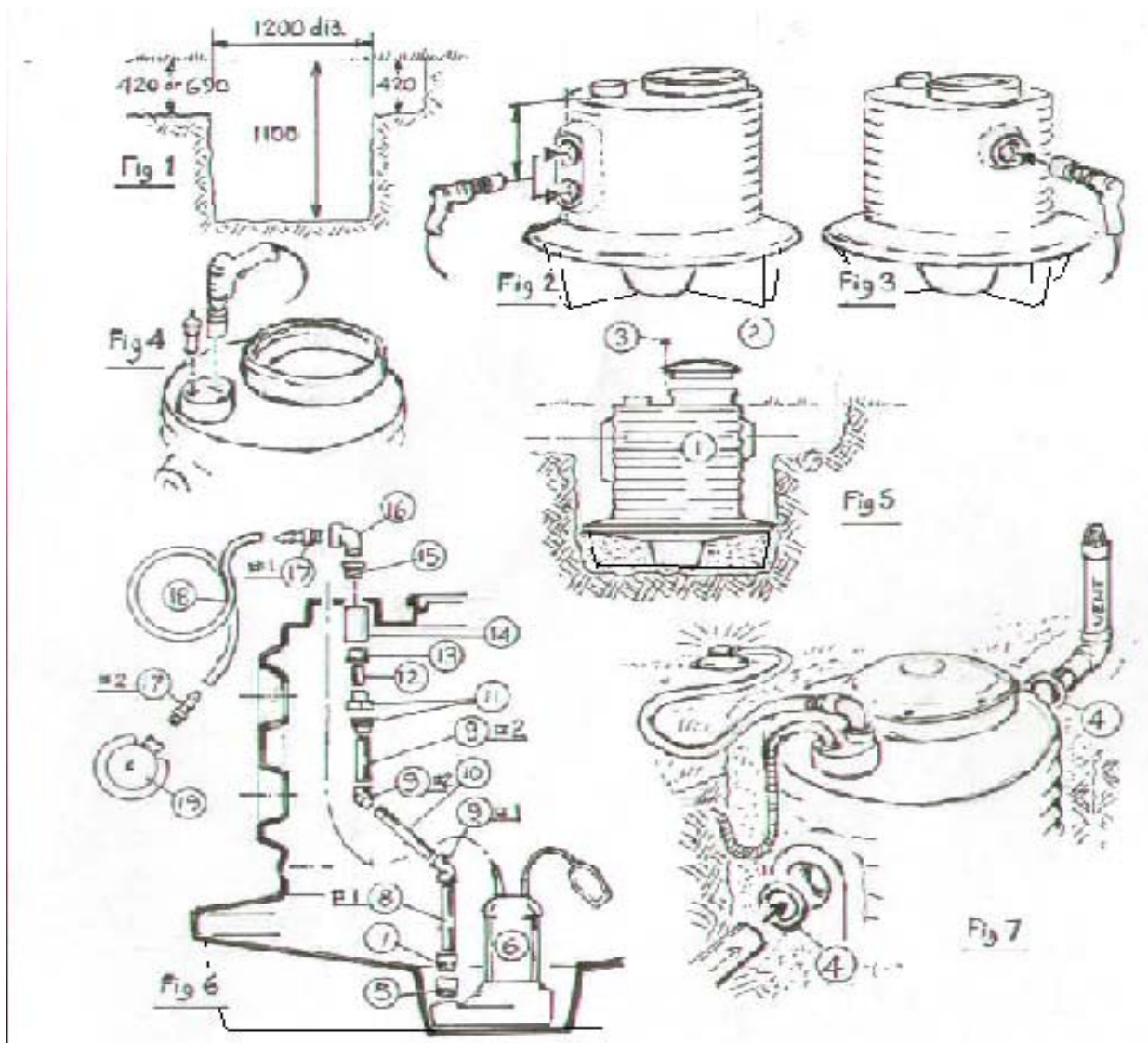


Figure 1: THE EXCAVATION

- Prepare excavation not less than 1200mm diameter up to 1100mm deep. Sides and bottom should be free from all intruding roots, stones, or other matter. Site MUST be away from areas susceptible to all vehicular and foot traffic.
- Determine which of the two adjacent inlet Connection Ports is to be used. This will depend on the depth of the pipe from the wastewater source at the point where it meets the Pump Well. Trench for piping may be up to 420 deep for 450L capacity, or up to 690 deep for 250L capacity.
- Trench excavation for the Vent connection should be 420 deep.
- Trenches for electrical conduit and Pump Hose should begin at the Pump Well Inlet.

Figure 2: THE INLET

- Cut out the Inlet opening selected. These are for 100mm uPVC SWV pipe, and can be cut with a 100mm diameter hole saw or hand keyhole saw. Only remove the 100mm central portion of the flat blanked membrane.

Figure 3: THE VENT

- Normal venting of the upstream pipe is usually adequate for most installations. Where needed, a vent port to suit the required pipe size (up to 100mm) can be cut in the Pump Well wall blister opposite the Inlet.

Figure 4: THE OUTLET

- Cut hole to accept selected pump discharge hose or pipe fitting. This hole is normally in the flat topped boss in the Pump Well top, close to the Access Cover boss. If using the Everhard Pump Kit, a 34mm diameter hole is required.
- Cut the hole to accept the gland selected for the pump cable and flexible conduit. This may be cut in the same flat topped boss, and should be close to the side of the Pump Well to minimise the exposed electrical conduit.

Figure 5: POSITIONING THE PUMP WELL

- Remove the Access Cover, and clear all cuttings from the interior.
- Place sufficient bedding sand in the excavation to allow full support of the cross shaped base and central bottom, providing a layer 50mm thick under the sump base. See *ANCHORAGE*.
- Carefully place the Pump Well in the excavation, seating the base of the Pump Well into the sand bed.
- Ensure the top of the Pump Well is level.

Figure 6: INSTALLING A TYPICAL PUMP - Check the selected pump to ensure that the correct parts are used.

- a) Ensure suitable Reducer Bush is selected. Screw Reducer Bush **Item 5** into the Outlet of Pump **Item 6**, and tighten.
- b) Screw the 25 BSP x 25 Valve Adaptor **Item 7** into the Pump Discharge Bush
- c) Solvent cement one pipe x 300mm long **Item 8** into the Valve Adaptor.
- d) Solvent cement one 45 degree elbow **Item 9** onto the pump assembly.
- e) Solvent cement the pipe 330mm long **Item 10** into the 45 degree elbow of the pump assembly.
- f) Solvent cement the remaining 45 degree elbow **Item 9** onto the pump assembly, to direct flow to the vertical, and position the assembly in the Pump Well, with the Pump on the floor of the central sump.
- g) Solvent cement the Barrel Union **Item 11** on to pipe 100mm long **Item 12**.
- h) Solvent cement the 25 x 32 Reducing Bush **Item 13** on to pipe item 12.
- i) Solvent cement the 32 x 32BSP Adaptor **Item 14** on to item 13,
- j) Place inside the Pump Well with the free end of item 14 immediately below a 34mm diameter hole drilled in the top of the Pump Well to accept the pumped discharge.
- k) Insert and screw the tail of 25BSP x 32BSP Reducing Bush **Item 15** through drilled hole into Adaptor item 14.
- l) Screw the 90 degree elbow **Item 16** into the Reducing Bush item 15.
- m) Fit one Barb-tail **Item 17** into Elbow item 16, then connect hose **Item 18** to the barb-tail item 17.
- o) Connect the second Barb-tail item 17 to the hose item 18.
- p) Connect the Dome Sprinkler **Item 19** to the second Barb-tail item 17.
- q) Dismantle Barrel Union item 11. Check the pipe length required inside the Pump Well between the upper 45 degree elbow item 9 and the face of the fixed Barrel Union half. This pipe must be long enough to help support the underside of the Pump Well top and minimise any potential sagging.
- r) Cut the second 300mm long pipe **Item 8** to suit. Solvent cement the dismantled Barrel Union half on one end.
- s) Solvent cement the pipe into the upper 45 degree elbow item 9.
- t) Re-assemble the Barrel Union item 11 to make the pipework rigid and secure.
- u) Fit the pump cable and discharge hose, and their fittings, through the cut holes in the top.

Figure 7: COMPLETING THE INSTALLATION

- a) Push the inlet pipe fully home into the open connection port, with one elastomeric rubber joint ring **Item 4**.
 - b) Push the Vent pipe fully home into its' port with remaining elastomeric rubber joint ring **Item 4**.
 - c) Ensure the Pump Well is firmly seated and the top is level.
 - d) Part backfill to within 100mm of the invert of the inlet pipe with dry sand and/or loose soil. **DO NOT USE ROCK, RUBBLE, RUBBISH OR FOREIGN MATERIAL WHICH MAY DAMAGE THE PUMP WELL.... See ANCHORAGE.**
 - e) Fill the Pump Well with clean fresh water to the invert of the inlet pipe.
 - f) Connect the pump to the correct power supply and test run the pump.
NOTE - solvent cement joints should NOT be subject to pressure for 24 hours.
- IMPORTANT – Only a qualified electrician should install and connect wiring.**
- g) Adjust the pump control float so that the liquid level does not rise above the invert of the inlet, and so that the pump switches off when the sump base is still full.
 - h) Ensure that a loop of cable in flexible conduit is adjacent to the Pump Well to allow for soil movement. There should be a circuit breaker at the power source, and an isolating switch at or near the Pump Well to allow the Pump to be safely disconnected.
 - i) Replace the Access Cover and secure with Stainless Steel Screws. **DO NOT OVER-TIGHTEN.**
 - j) Complete backfilling around the Pump Well and ensure that the cable and discharge hose or piping is adequately covered. Backfill with soil and sand mixture, compacted down moderately. Ensure that no vegetation, sharp objects, rubble, metal or other foreign matter is present.

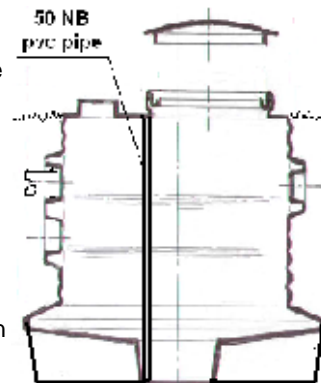
ANCHORAGE

On most normal sites the backfill over the Pump Well skirt described above will be adequate. However, where the location is exposed to regular flooding or has high water table conditions, it may be necessary to provide extra anchorage to prevent the Pump Well moving if the soil is saturated and fails to remain as a solid homogenous mass. A quantity of concrete may be poured into the excavation and around the Pump Well on top of the skirt at the bottom of the side wall to encase the vessel. A concrete tube of 1200mm outside diameter and 850mm high around the vessel will have a mass of about 700kg, which will be sufficient to overcome the buoyant effect of a free-floating empty Pump Well.

FURTHER RECOMMENDATIONS FOR INSTALLATION

It is strongly recommended that a rigid section of uPVC pipe 1075mm long should be fitted inside the Pump Well after installation is complete, **ESPECIALLY WHEN RIGID PUMP PIPING IS NOT INSTALLED**. The lower end of the pipe should rest on the floor of the sumped base beside the pump. The top end should be wedged into place against the underside of the top of the Pump Well, between the access opening and the raised boss for the cable and pump discharge line. This provides extra support to prevent movement of the top and bottom of the Pump Well in extreme operating conditions. A screw can be driven through the Pump Well top to secure the pipe. The pump cable can be secured to this pipe or the discharge pipe, but care must be taken to ensure that it does not interfere with the free movement of the float switch.

Where the required depth to the pipe invert makes the Pump Well lower than normal, a **Riser** can extend the access opening to surface level. This is EVERHARD Ribstruct 600mm pipe fitted with a top collar, secured by screws, which accepts the standard Access Cover. The Pump Well access rim should be cut off with a saw, leaving a plain upstand of about 20mm. The Ribstruct is trimmed to the required length, leaving a rib-flange at the lower end, and pushed firmly down over the upstand. Although this is a tight fit, a generous bead of suitable silicone sealant should be applied to prevent the ingress of groundwater. At least four equally spaced Stainless Steel self-tap screws should be driven down through the rib-flange into the top of the Pump Well to secure the Riser.



IMPORTANT NOTES

"Pump Well" is a generic term for any vessel intended to temporarily store liquid before it is transferred by means of a pump to another location, perhaps for processing or long-term storage. The EVERHARD **Polymer Pump Well** has been tested and found to comply with the Australian/New Zealand standard for vessels such as Septic Tanks and Collection Wells for use in domestic, and some other, situations. It may be used to receive treated wastewater from a Septic tank for pumped discharge to a disposal area, or in applications where site conditions dictate that short-term accumulations of "All-waste" or "Black-water" wastes must be delivered to a treatment system by a suitable pump instead of free-flowing under gravity direct from the source.

The **Polymer Pump Well** can also accept "Greywater" (defined by AS/NZS 1546.1:1998 as wastewater not containing toilet wastes). This is often collected separately from toilet sourced wastes and temporarily held in a small capacity storage vessel before being pumped directly to the land application or disposal area rather than to a treatment system. In some cases, Greywater can also be used for irrigation purposes.

While many local government authorities accept and recommend this practice in the interests of water conservation, you MUST check with your local authority to ensure that it will be permitted in your area before beginning plans for any installation incorporating a Pump Well.

The EVERHARD Pump Well was designed for on-site treatment and disposal applications. It is tested for StandardsMark approval and does **not** carry WaterMark certification. Connection to sewer systems, and installation in sewered properties, may not be permitted by local authorities.

The EVERHARD **450/250L Plastic Pump Well** has a number of features which make it an obvious choice for many installations. It is light and easily handled and worked with, while also being durable and tough. Produced from a blend of High Density Polyethylene stabilised against ultra-violet light degradation, its physical characteristics allow the product to exceed the required performance criteria for the applicable tests in AS/NZS 1546.1:1998. In testing for resistance to lateral load, a critical part of the standard, the EVERHARD **Polymer Pump Well** was subjected to side loading equivalent to the vessel being completely buried, a situation which a correctly installed unit should never encounter. The **Polymer Pump Well** remained intact and suffered no permanent damage whatsoever, despite extended exposure to the test load.

EVERHARD **Polymer Pump Wells** are ideally matched for use with the range of EVERHARD **Polymer Septic Tanks** and **Collection Wells**, all produced in accordance with AS/NZS 1546.1:1998. Other products available for domestic wastewater applications include the popular EVERHARD **Xtra-treat** Filter which can be quickly and easily fitted into the Outlet Fitting inside most Septic Tanks. These help prevent the discharge of solid particles suspended in the treated fluid. An **Xtratreat** Filter can greatly extend the service life of the disposal system. The EVERHARD range of disposal system equipment also includes effluent Distribution Boxes in Concrete and in durable, tough Polymers. These complement the cost-effective and very efficient Polymer **EVERTRENCH** Trench Liner for use in Evapo-Transpiration and Soakage treated waste-water disposal systems.

BRANCHES

HEAD OFFICE – BRISBANE

EVERHARD INDUSTRIES PTY LTD
A.C.N. 009 690 859
405 Newman Rd. Geebung, Brisbane, 4034
PO Box 543 Virginia BC, QLD 4014
Telephone: (07) 3637 6444
Fax: (07) 3265 2111

SLACKS CREEK BRANCH

EVERHARD INDUSTRIES Pty Ltd
6 – 8 Bowen Street, Slacks Creek, QLD 4127
Telephone: (07) 3208 7022
Fax: (07) 3808 0000

SUNSHINE COAST BRANCH

EVERHARD INDUSTRIES Pty Ltd
562 Maroochydore Rd, Maroochydore, QLD
4558
Telephone: (07) 5445 1688
Fax: (07) 5445 1605

CAIRNS BRANCH

EVERHARD INDUSTRIES Pty Ltd
26 – 28 Comport St, Portsmith, QLD 4870
Telephone: (07) 4031 3558
Fax: (07) 4031 6034

WIDE BAY BRANCH

EVERHARD INDUSTRIES Pty Ltd
Shed 2, 2 Phillip St, Maryborough, QLD 4650
Telephone: (07) 4121 4700
Fax: (07) 4121 4733

EVERHARD NSW – SYDNEY BRANCH

EVERHARD INDUSTRIES Pty Ltd
7 Denoci Close, Wetherill Park, NSW 2164
Telephone: (02) 9757 2799
Fax: (02) 9757 2446

EVERHARD VIC - MELBOURNE BRANCH

EVERHARD INDUSTRIES Pty Ltd
11 – 13 Claredale Rd, Dandenong, VIC 3175
Telephone: (03) 9771 7344
Fax: (03) 9771 7341

EVERHARD WA – PERTH BRANCH

EVERHARD INDUSTRIES Pty Ltd
1/26 Biscayne Way, Jandakot, WA 6164
Telephone: (08) 9417 8222
Fax: (08) 9417 2555

AGENTS & DISTRIBUTORS

AUSTRALIAN CAPITAL TERRITORY

NEIL DAVIES PTY LTD
6/51 Tennant Street, Fyshwick, ACT 2609
Telephone: (02) 6280 4177
Fax: (02) 6280 7660

SOUTH AUSTRALIA

UMCOS TRADING
198-200 Sturt Street, Adelaide, SA 5000
Telephone: (08) 8212 1700
Fax: (08) 8231 1643

TASMANIA

WHOLESALE PRODUCTS PTY LTD
4 Knoll Street, Glenorchy, TAS 7010
Telephone: (03) 6273 3455
Fax: (03) 6273 1901

NORTHERN TERRITORY

UMCOS TRADING
12A Tang Street, Coconut Grove, NT 0810
Telephone: (08) 8932 9279
Fax: (08) 8932 9278

PORT MACQUARIE DISTRIBUTOR

VOGUELINE INC
8 Jambali Road, Port Macquarie, NSW 2444
Telephone: (02) 6581 3833
Fax: (02) 6581 3320

TOWNSVILLE DISTRIBUTOR

YOUNG'S DISTRIBUTION CENTRE
8 Whitehouse Street, Garbutt, QLD 4814
Telephone: (07) 4779 0222
Fax: (07) 4725 1147

NEW ZEALAND

DUNEDIN STAINLESS STEEL
34-44 Sturdee Street, Dunedin, NZ
Telephone: (03) 477 3448
Fax: (03) 477 3101

**EVERHARD products are also
available from most reputable
building and hardware
suppliers across Australia.**