GRP PUMP CHAMBER
INSTALLATION GUIDELINES

HEALTH & SAFETY AT WORK 1974

DO NOT BEGIN INSTALLATION OF THIS CHAMBER UNTIL YOU HAVE READ & FULLY UNDERSTOOD THE REQUIREMENTS BELOW.

THE CONCRETE BACKFILL SHOULD BE DESIGNED TO PROTECT THE GRP CHAMBER FROM ALL EXTERNAL GROUND & GROUND WATER PRESSURE. THEREFORE IT SHOULD BE WATERTIGHT.
ANY GROUNDWATER ALLOWED TO LEAK BETWEEN THE CONCRETE BACKFILL & THE GRP PUMP CHAMBER IS LIKELY TO CAUSE A BUILD UP OF PRESSURE WHICH WILL DAMAGE THE GRP CHAMBER.
WE CANNOT ACCEPT RESPONSIBILITY FOR DAMAGE OR DE-FORMATION OF THE CHAMBER OR PIPEWORK CAUSED BY EXTERNAL GROUND, GROUND WATER PRESSURE OR GROUND MOVEMENT DURING OR AFTER INSTALLATION.
DO NOT COMMENCE WITH INSTALLATION IF YOU CANNOT CONTROL ANY GROUND WATER PRESENT IN ORDER TO PROVIDE A DRY EXCAVATION.
IF NECESSARY LINE THE ENTIRE EXCAVATION WITH A CONTINUOUS LAYER OF PLASTIC SHEETING PRIOR TO INSTALLATION.

As with all site work the dangers of working with water and electricity pose severe threats to health if obvious and fundamental precautions are not taken. Therefore if you are in any doubt to any of the following, please do not hesitate to contact us.

All site work should be undertaken by qualified personnel only.

Lifting & Storage
Great care should be taken when lifting & handling the chambers and suitable equipment should be used at all times. The nature of the design means the centre of gravity of the chamber is likely to be offset. The chambers are best lifted by crane using webbing lifting straps. Any "lifting eyes" provided are untested & should not be used as the sole lifting point for the chamber. Any storage site should be free of any object which may cause damage to the chamber, and the chamber should be secured to prevent any rolling.

Pre-Installation Inspection
Before installation an inspection of the chamber must be carried out to ensure no damage has occurred since delivery and to check all inlet and outlet connections are correct. **Any changes or repairs cannot be made once installation has begun.**

Tank Installation

- Select a suitable location for the tank. This will be normally at ground level lower than the properties being drained and allow for the falls in site drainage.
- Check that no other structure or special access is required over the selected spot. Provision can always be made, if necessary, to place the tank in a roadway, provided that a suitable protective backfill is placed around it and a suitable heavy-duty manhole cover is used over the opening.
- Check that no underground cable, pipe or service duct, lies underneath.
- Excavate the minimum opening in the ground to receive the pump chamber and pipework to be used. The depth of excavation needs to be at most, 500mm deeper than the overall tank depth. A sump should be left in one corner for dewatering purposes.
- A dewatering pump MUST be used to remove any ground water present & provide a dry excavation until the concrete backfill is set.
- Some clean hardcore should be placed and consolidated in the base of the excavation. Usually this will need to be around 200mm thick, but in good ground, should be a minimum of 50mm.
- In order to be protected from any external force the chamber should be completely surrounded by concrete. The concrete surrounding the chamber should be of suitable thickness, usually a minimum of 150mm, and quality to protect the chamber from all external pressure. Whether this is ground pressure, ground water pressure, trafficked areas or any other force which may cause damage or de-formation to the chamber. Therefore we recommend a qualified civil/structural engineer is consulted to specify the correct concrete backfill suitable for your specific site requirements.
- Pour the appropriate amount of concrete on top of the hardcore and then lower the chamber onto the damp concrete allowing the flanged base joint, if fitted, to settle in, ensuring that the inlet and outlet pipes are correctly aligned.
- Fill the chamber with clean water to depth of approx 500mm and recheck levels. **Do not overfill as the chamber is not designed to hold water when not supported by the concrete backfill.**

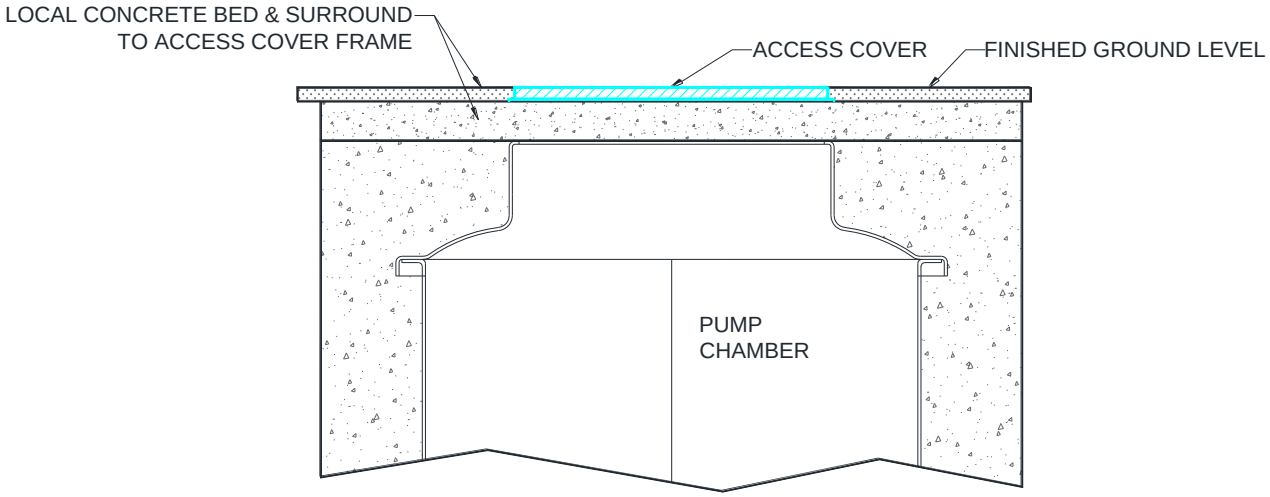
- Carefully commence pouring of the concrete backfill in **small stages** evenly around the chamber ensuring there are no voids which may allow ground water to penetrate. **Vibrating pokers should be used with care to avoid damage to the chamber.**

- Continue filling the chamber with clean water whist evenly backfilling, ensuring the water level is no more than 300mm above the level of the concrete backfill.

- Connect up the site pipework to the inlet and outlet of the pumpwell, and draw the pump and float cables through the conduit to the control panel before they are encased in concrete.

- **Under no circumstances should concrete be poured directly onto the chamber. Attempting to pour too much concrete at once will result in the chamber "floating" or particularly above the half way point damage to the chamber due to excessive weight on the chamber body for which the manufacturers will not be responsible.**

- Finish off the surface of the concrete at the required level, depending on the final ground cover required i.e. topsoil, tarmac, gravel etc. (see sketch below). **If the access cover or the surrounding area is likely to be subject to other than purely pedestrian traffic, provision must be made to ensure that no weight loading is taken by the chamber i.e. by the construction of a cover slab, and the appropriately specified access cover must be used.**



PLEASE ALLOW THE CONCRETE BACKFILL TO SET BEFORE PUMPING THE WATER FROM THE PUMP CHAMBER.

ADDITIONAL NOTES
A cable duct is required with **no sharp bends**.
It is most important that once the tank is in situ with all the inlet connections made, the drainage system should be flushed out, and all sand, debris etc. removed from the chamber.

If vehicular traffic will be passing over the chamber, it is **ESSENTIAL** that the cover slab is constructed so that there is **NO DIRECT LOAD** on the chamber. Also an access cover with the correct specified **S.M.W.L.** must be used.

ELECTRICAL INSTALLATION
Wiring diagrams are enclosed with each control panel. Please adhere to the diagram supplied.

If any further information is required please consult your supplier.

WE RECOMMEND THAT ONCE THE SYSTEM HAS BEEN COMPLETELY INSTALLED, OUR ENGINEER ATTEND THE SITE TO COMMISSION THE SYSTEM.

By beginning installation of the unit the installer is deemed to have read and complied with the above. Failure to do so will invalidate your warranty. If you have any questions please remember we are only a telephone call away.