INSTALLATION GUIDANCE NOTES

VORTECH™ by DUTYPOINT

Vortech Compact, Regular and Grand Polyethylene Underground Tanks

DUTYPOINT

PUMPS I SYSTEMS I SERVICING I KNOW-HOW

INSTALLATION INSTRUCTIONS

Check list before installation

IMPORTANT NOTE

Installation of this Pumping Station must be undertaken only by suitably qualified and experienced personnel. Use only the appropriately certificated tradesmen for each major task – e.g: Registered Plumbers and NICEIC registered Electricians.

Having selected the site for the Pumping Station, check with all available maps and plans to ensure there are no concealed obstructions, existing pipes, cables, trunking, etc. that cross or impinge on the site. A physical survey should also be carried out.

Ask your Local Authority if in doubt.

NOTE: Installing a Pumping Station usually requires formal approval from the appropriate department of your Local Authority. It is the responsibility of the Landowner (or Site Management) – not the Contractor or Pumping Station supplier - to ensure that this consent is obtained in writing prior to commencing installation.

Pre-survey of the site will also reveal any potential difficulties with flooding caused by the water table itself, run-off drainage from surrounding areas, ground saturation in storm conditions, or tidal conditions (if appropriate).

- Maximum groundwater depth of 2m from base of tank must not be exceeded. Only standard size tanks should be used where there is groundwater present.

Where it is necessary to install the Pumping Station in ground where there are potential flooding problems, care should be taken to ensure that the tank cannot be forced out of the ground by the upward pressure of any ground water in the excavation. It should be noted that tanks such as those used in packaged Pumping Stations will, when empty, float on as little as 50mm (2") of water, and the upward thrust of that tank fully immersed in water can be surprisingly high. For sites where the water table is above the bottom of the tank, the use of cement slurry as a bed will prevent the base of the tank from buckling. In any case, always ensure that:

- There is no damage to the tank. Inspect carefully for any damage from contact with sharp objects or by mishandling during transport to site or off-loading.
- The Pumping Station will be so positioned that the inlet pipeline connection is at least 700mm above the base of the tank.
- The tank is surrounded in concrete to the top.

Electrics

Ascertain from which outlet the power supply for the Pumping Station will be supplied. Ideally this should be a dedicated fused outlet, capable of isolation in emergencies and must be adequate to meet the rated load of the station – *see the detailed specification sheet which accompanies the pumping station.*

Installation Guidance Notes

The following installation check list should not be regarded as site-specific. It is not definitive, as each installation /site is unique in some way. Please therefore also refer to the detailed specification sheet which accompanies the Pumping Station and read it in conjunction with these guidance notes.

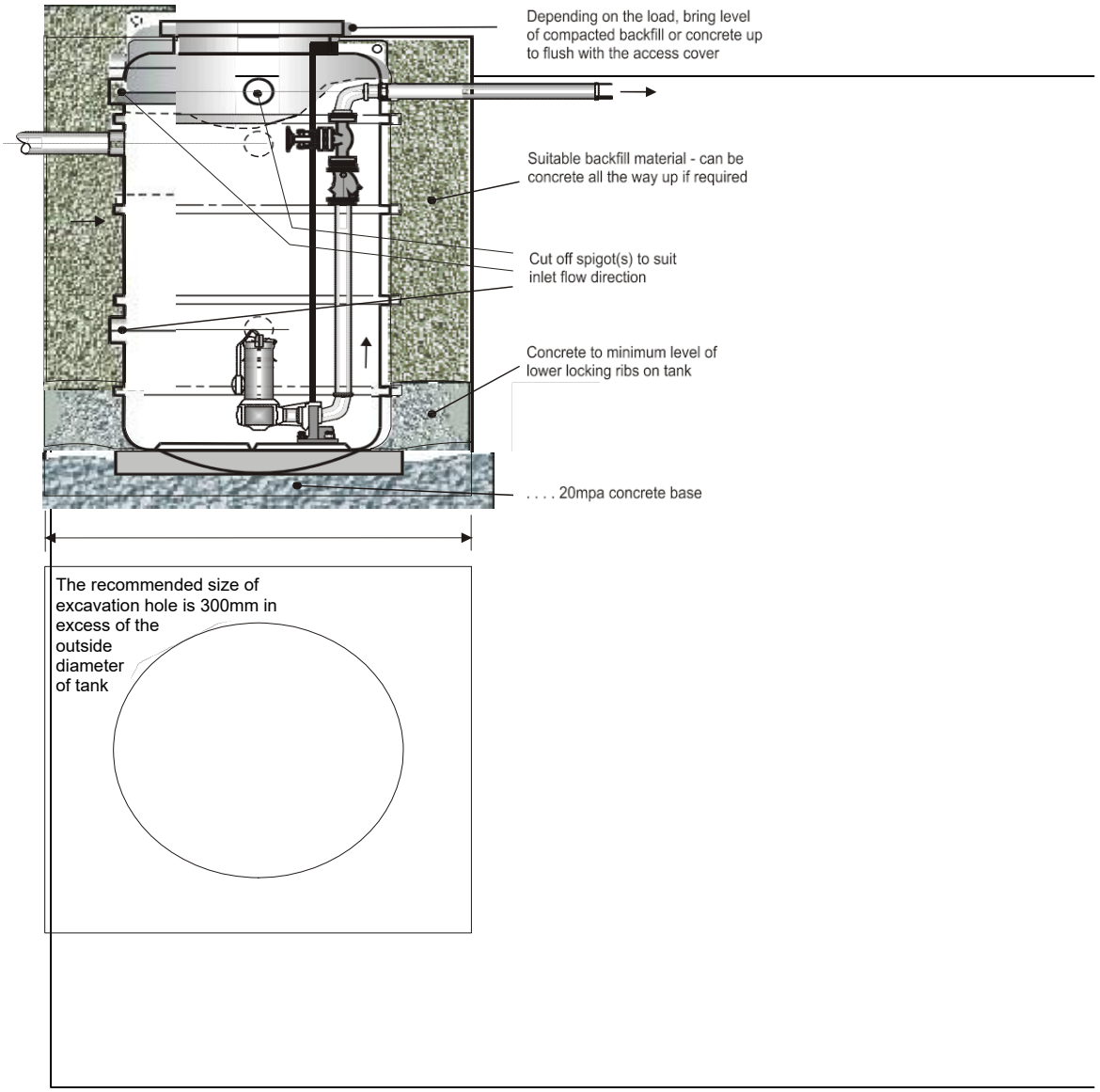

Fig 1: Typical installation sketch with backfill notes

1. Check the depth (invert) of the inlet pipe as this will determine the excavation depth –*see tank inlet specification.* In any case the minimum height from the bottom of the tank to the underside of the inlet pipe must be 600mm (24”).

2. The recommended size of the excavation hole should be 300mm (12”) more than that of the tank.

3. Lay a minimum of 100mm (4”) of 20mpa concrete in the bottom of the excavation hole if there is no potential water ingress or flooding problem.

4. Whilst the base cement or concrete is still slurry – and using suitable lifting equipment - lower the Pumping Station gently onto the base, ensuring that no stones or other sharp objects are allowed to fall in at the same time, or damage to the tank may result.

5. Once the tank is roughly in place, check for level and position, and adjust / prop as necessary before leaving it for the slurry to set, ensuring that the top of the excavation is covered with a tarpaulin or suitable PE sheeting to protect it from rain or wildlife.

6. Fill the tank with water up to and over the first rib - or in any case, at least 300 - 400mm (12 – 16") in depth.

7. Ensuring the tank is secure on its base – and will not move laterally – pour concrete up to at least the level of the first reinforcing rib on the tank – *see note to Step 8 below.*

8. Make all pipework connections for inlet and discharge pipework. Note that the Pump Chamber should be vented from one of the 110mm spigot pipe connections below the access cover. A 110mm cable duct is required between the pump chamber and the control panel location and should be connected to one of the 110mm spigot pipe connections just below the manhole cover. A draw cord should be installed and secured in the duct during installation. Check that the pipework connections to and from the tank are secure and leak free, and ensure that all unused connections are plugged and properly sealed.

   NOTE: Local regulations and site conditions will determine whether concrete should be used further up than the first rib, or simply a suitable backfill material (e.g. sand or pea-shingle which will compact easily). **It is recommended that no backfilling is undertaken until formal approval of the installation has been obtained from the Building Inspector.**

9. Finish around the tank top at ground level, ensuring the area is adequately protected from access by vehicles or wildlife (e.g. secure fencing) – *see specification sheet for details of cover (lid) used and its load rating.*

10. If the tank is sited in a driveway it must be surrounded in concrete, and a reinforced concrete slab (min. 200mm thick) must be used to spread the load away from the tank on to a firm surround.

Extra inlet installation.

Drill 140mm for 110mm diameter pipe with whole saw available from Dutypoint Ltd, and clean off burr.

Insert V-Tank wall seal into hole.

Once the wall seal is in place the pipe can be inserted into the seal. The seal can be sprayed with soapy water to ease pipe installation.

Note: Larger size wall seals are available.

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