

# The Pump Matic<sup>TM</sup> Range

*Below Ground packaged pumping Stations*

● Ideal for -  
**Commercial Properties, Housing & Garden Offices**

**Pump Technology Ltd, manufactures its own pumping station tanks. We have complete control over the construction, quality and on-time delivery of your pumping station; we will provide you with a site specific pumping station.**



Pump Technology  
Tank Manufacturing



Pump Matic<sup>TM</sup> 75



Pump Matic<sup>TM</sup> 100



Pump Matic<sup>TM</sup> 300

***For all your below ground pumping needs -  
Sewage, Wastewater & Storm Water.  
Pump Technology Ltd, have a below ground pumping station for you.***

**PUMP<sup>®</sup>**  
**TECHNOLOGY LTD**

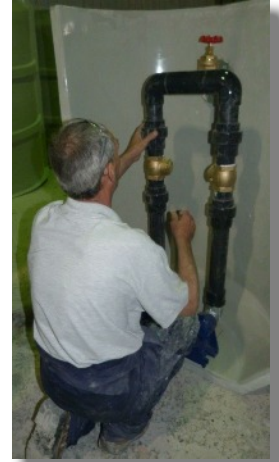
**Call our in-house consultant for a detailed technical specification.**

**01189 821 555 - [www.pumptechnology.co.uk](http://www.pumptechnology.co.uk)**

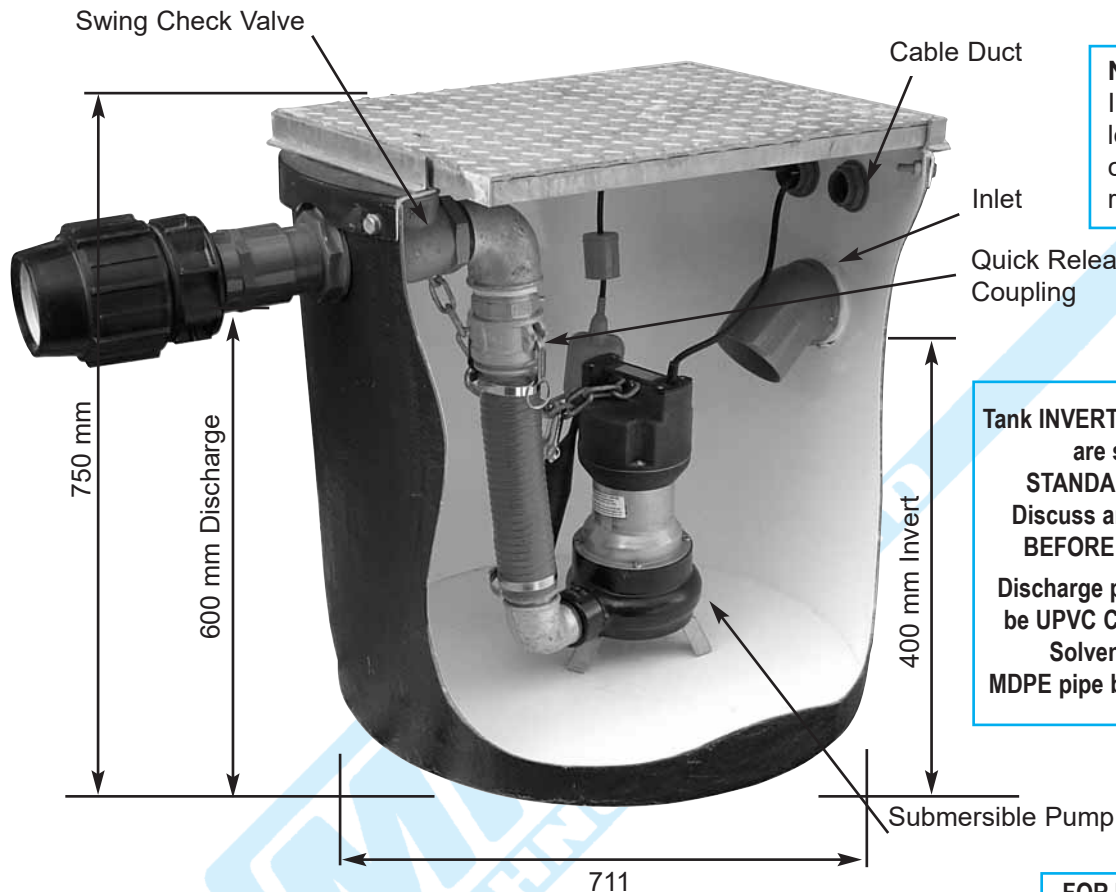
*More*

### Custom below ground sewage stations for every application -

- **Types** - Private, Type 1 and Type 2 adopted pumping stations.
- **Chambers** - GRP construction, standard, bespoke, vertical and horizontal.
- **Pumps** - Leading manufactures brands, free flow vortex or grinder and explosion proof options.
- **Connections** - Single or multiple inlets, height & position to suit site layout , UPVC or MDPE discharge connections.
- **Options** - Single or duplex pumps, free standing, guiderail mounted, UPVC, ductile iron or galvanised internal pipework.
- **Covers** - Double sealed, lockable, light duty or heavy duty.
- **Controls** - Panels, alarms, telemetry systems, kiosks.
- **Support** - Onsite advise, in-house consultant.
- **Service** - A National service engineer network- Commissioning, maintenance and breakdown.



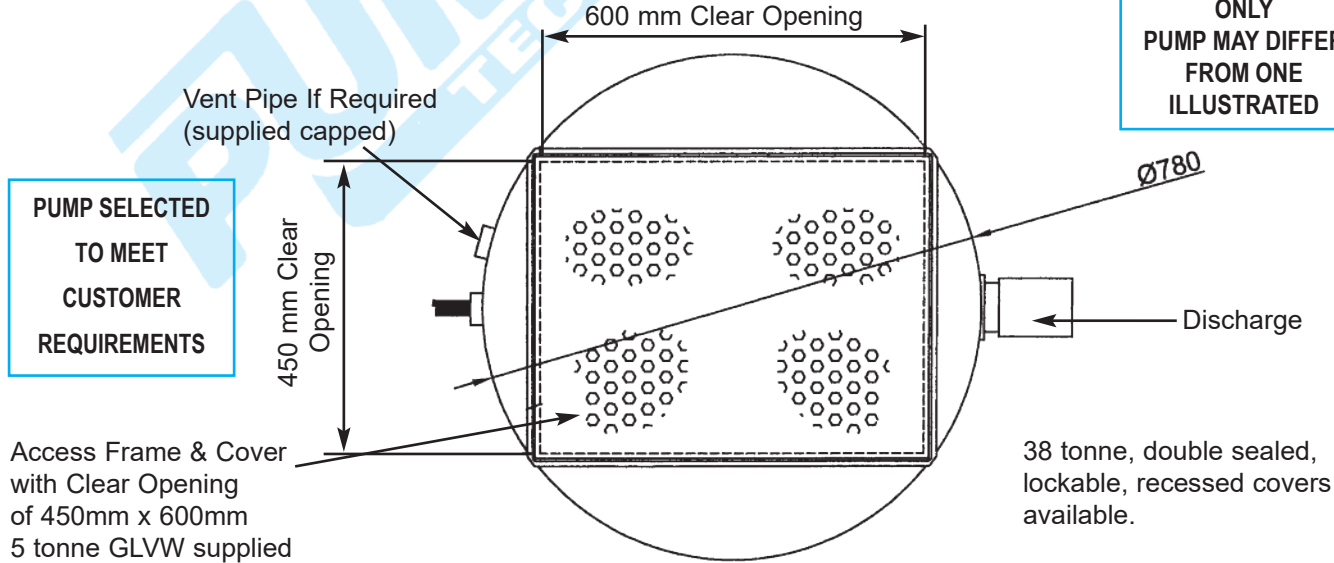
# **PUMP MATIC<sup>™</sup> 75/750** **Packaged Sewage Pumping System (single pump)**



**NOTE:**  
Inlets can be located to customer requirements!

**Tank INVERT & DISCHARGE** are set at a **STANDARD HEIGHT**  
Discuss any variations **BEFORE ORDERING**  
Discharge pipework must be UPVC Class 'C' or 'D'  
Solvent weld or MDPE pipe black as shown

**FOR INFORMATION ONLY**  
PUMP MAY DIFFER FROM ONE ILLUSTRATED



**PUMP SELECTED TO MEET CUSTOMER REQUIREMENTS**

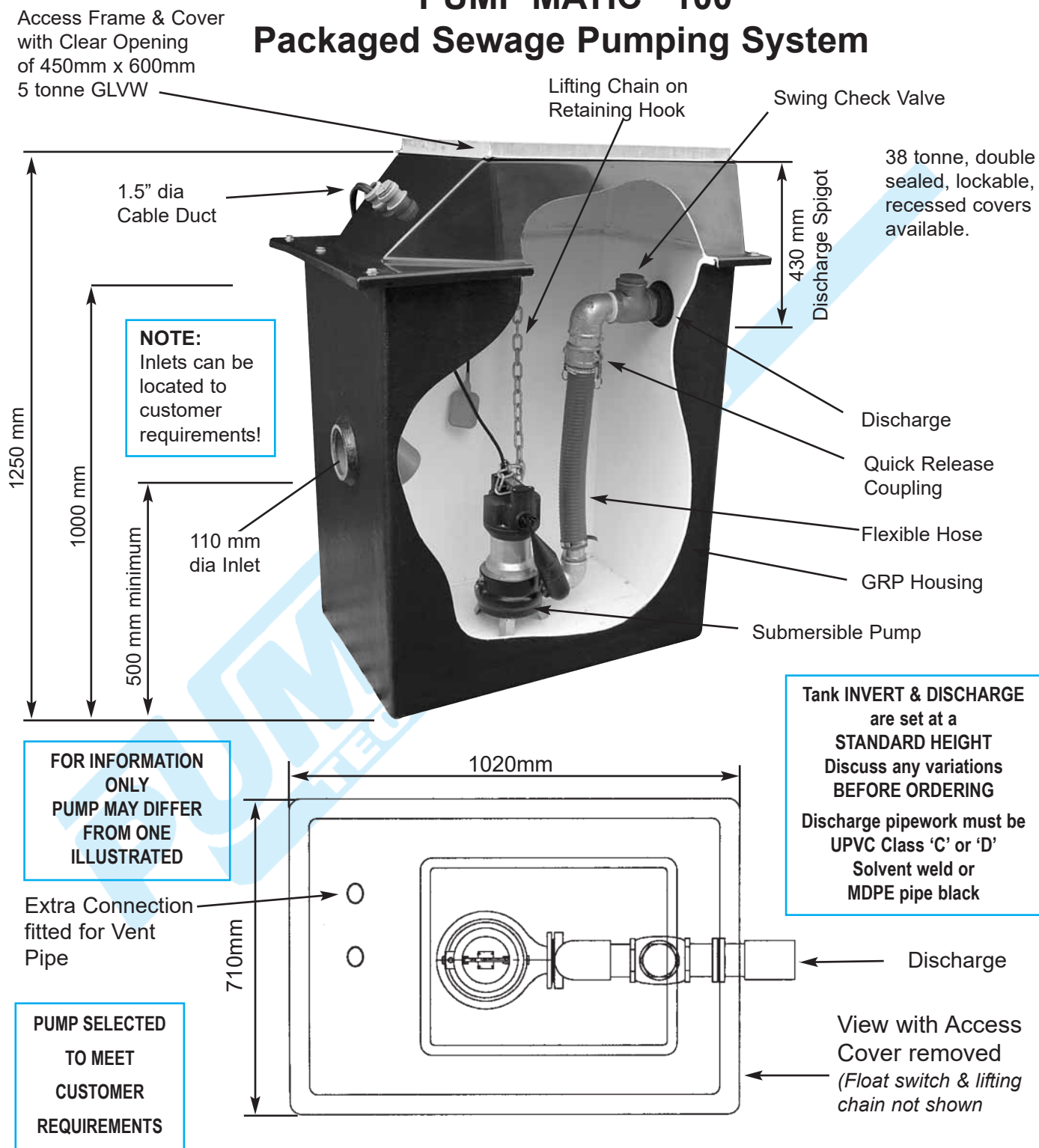
Access Frame & Cover with Clear Opening of 450mm x 600mm  
5 tonne GLVW supplied

38 tonne, double sealed, lockable, recessed covers available.

Due to a policy of continuous product improvement we reserve the right to alter specifications without notice.

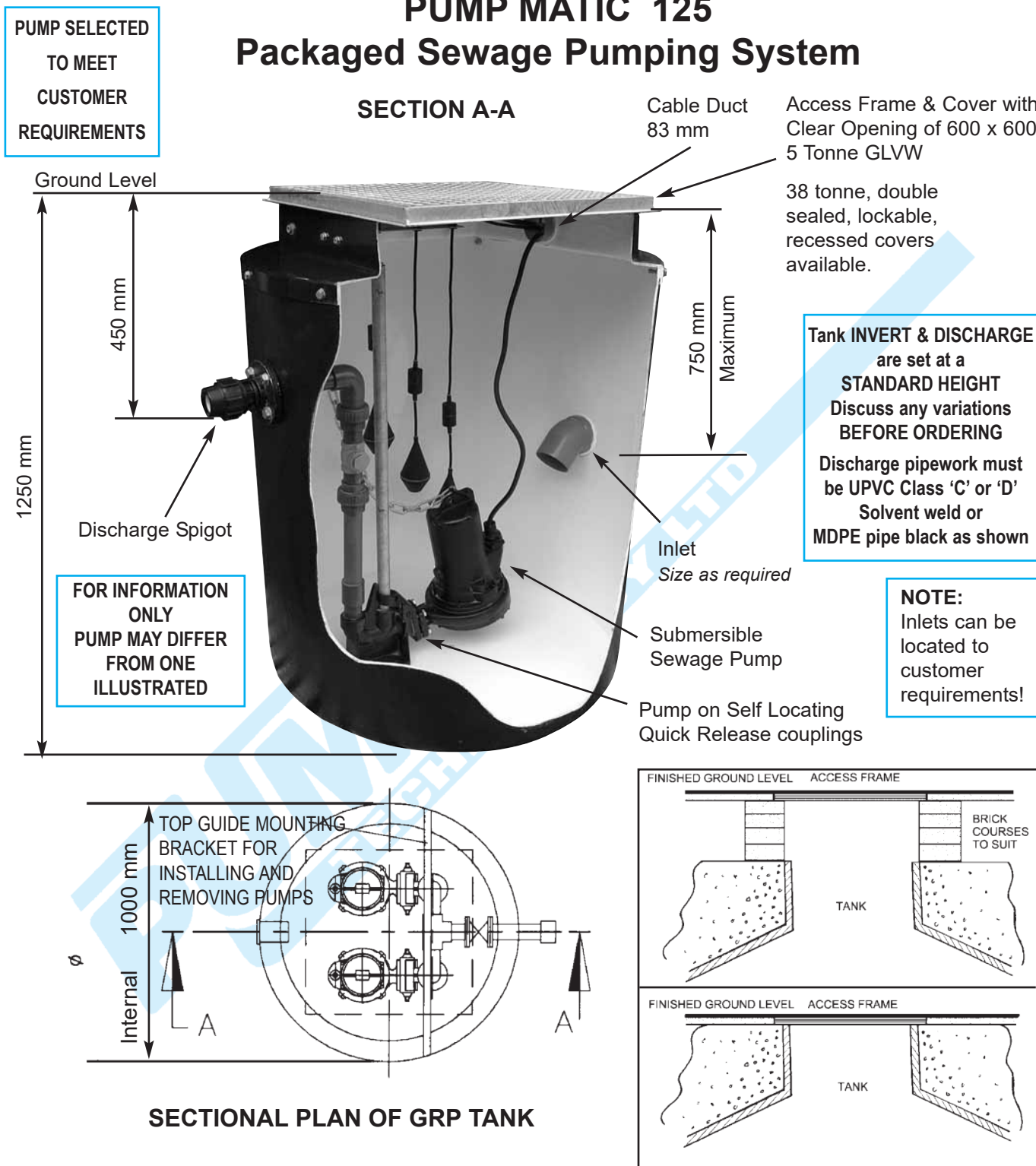


## PUMP MATIC<sup>™</sup> 100 Packaged Sewage Pumping System



Due to a policy of continuous product improvement we reserve the right to alter specifications without notice.

## PUMP MATIC<sup>™</sup> 125 Packaged Sewage Pumping System

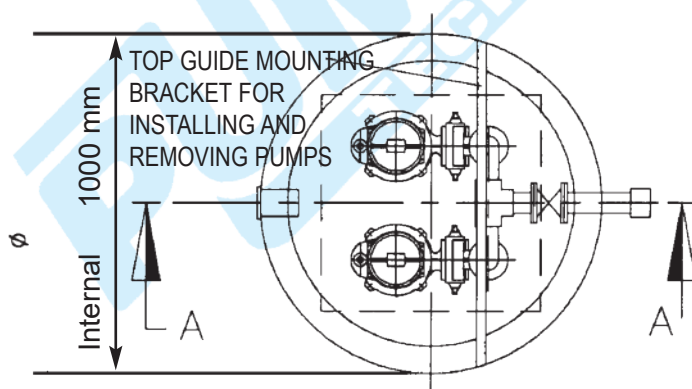
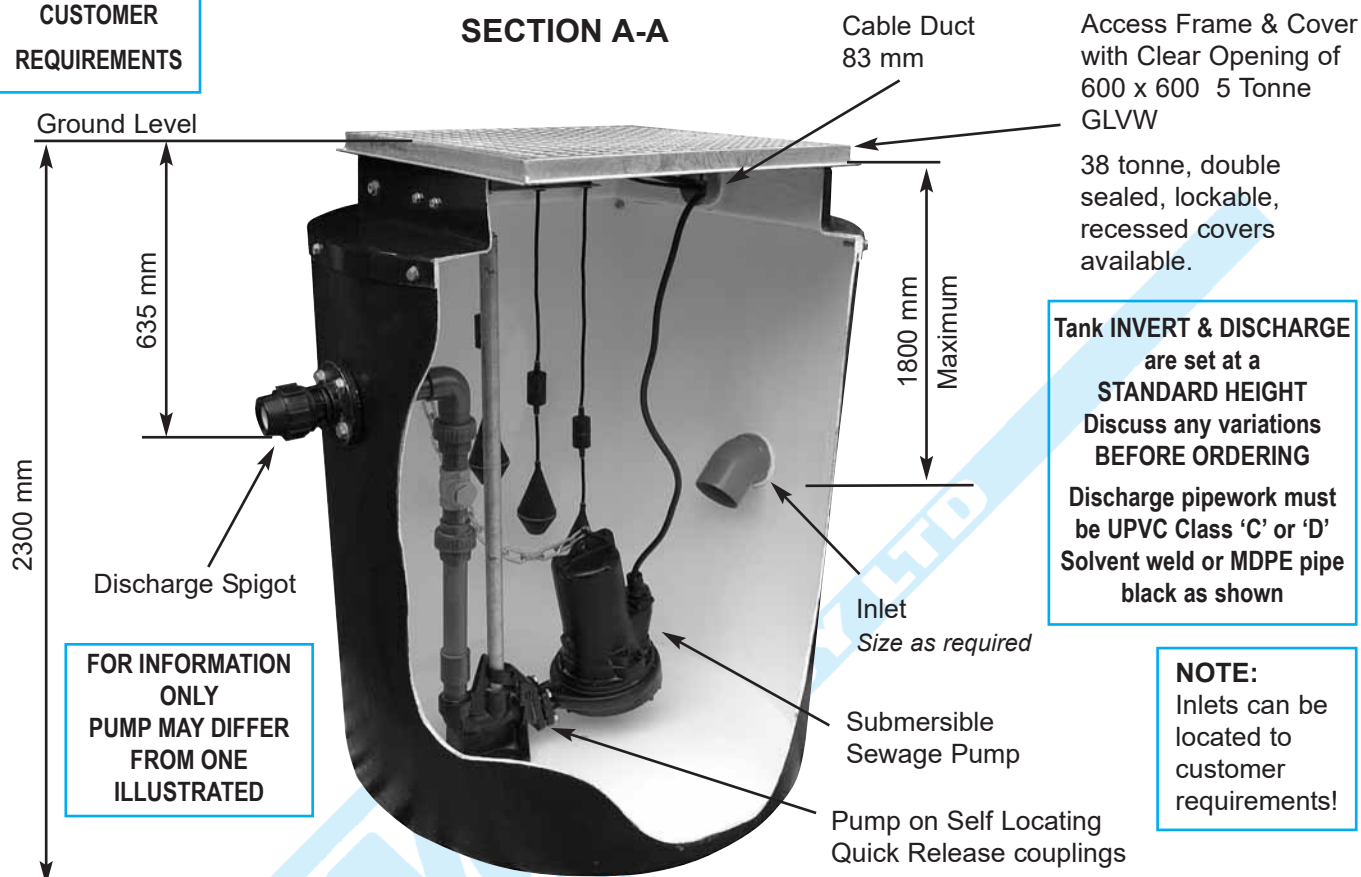


Due to a policy of continuous product improvement we reserve the right to alter specifications without notice.

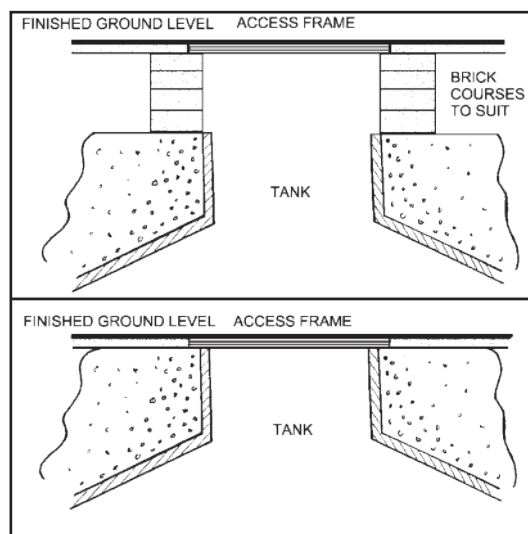
## PUMP MATIC<sup>™</sup> 200 Packaged Sewage Pumping System

PUMP SELECTED  
TO MEET  
CUSTOMER  
REQUIREMENTS

### SECTION A-A



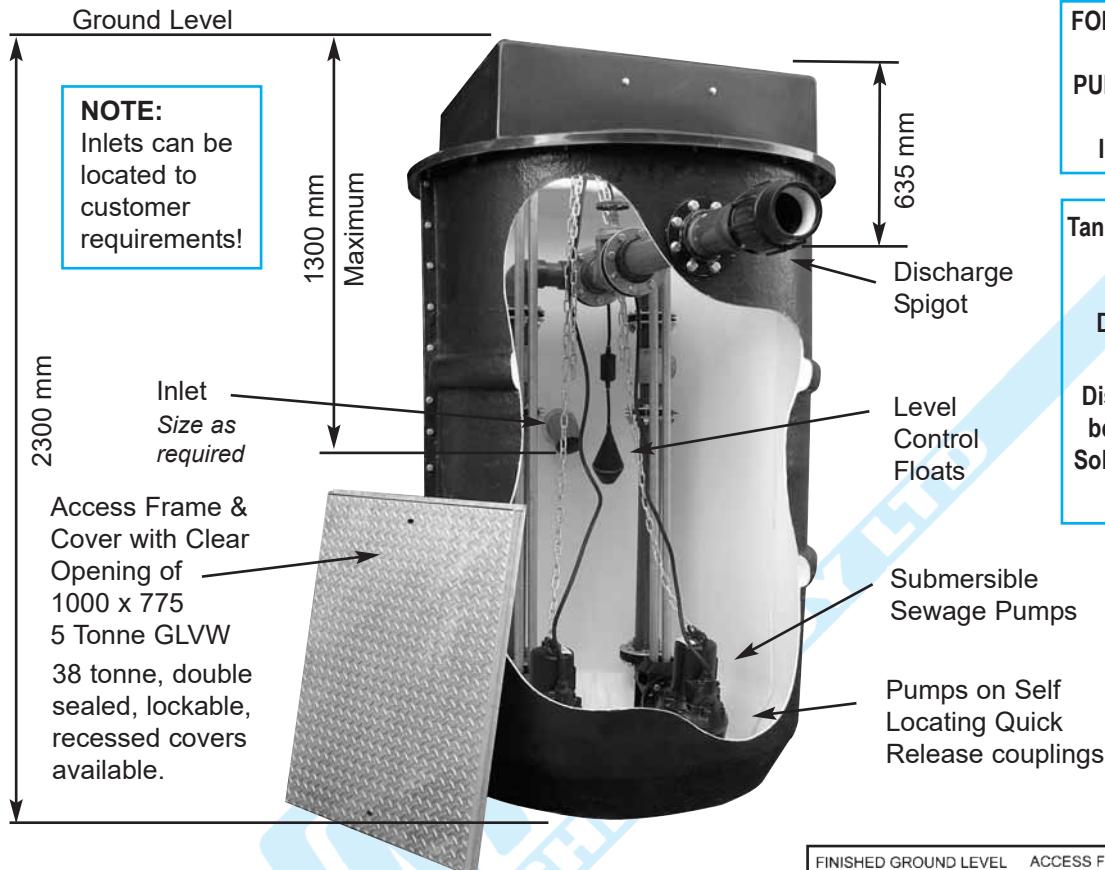
**SECTIONAL PLAN OF GRP TANK**



Due to a policy of continuous product improvement we reserve the right to alter specifications without notice.

# PUMP MATIC<sup>™</sup> 300 Packaged Sewage Pumping System

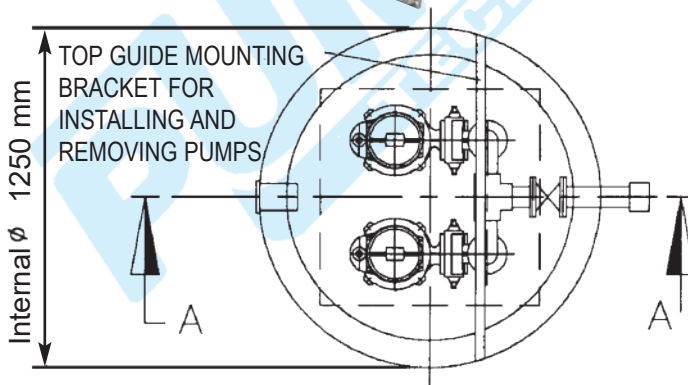
## SECTION A-A



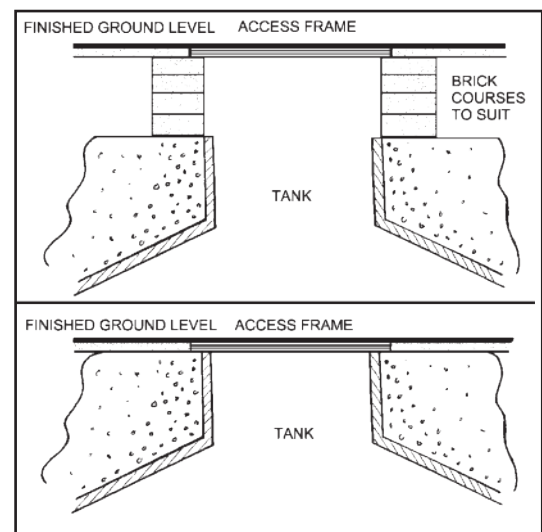
FOR INFORMATION ONLY  
PUMP MAY DIFFER FROM ONE ILLUSTRATED

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Discuss any variations BEFORE ORDERING  
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PUMP SELECTED TO MEET CUSTOMER REQUIREMENTS



## SECTIONAL PLAN OF GRP TANK

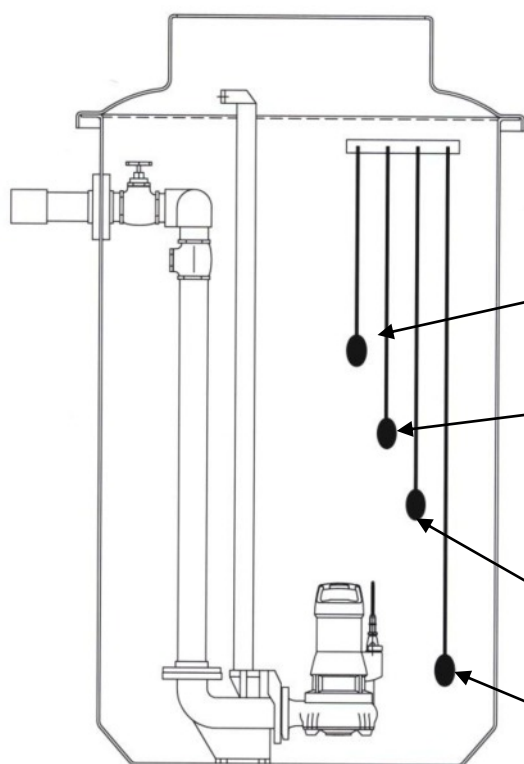


Due to a policy of continuous product improvement we reserve the right to alter specifications without notice.

For further PumpMatic Tank Sizes and Pump Options call our in house consultant for a detailed technical and commercial specification

Pump Technology Ltd can supply any control panel to meet the customers specification.

## EXAMPLE OF A DUAL PUMP CONTROL PANEL OPERATION



### SYSTEM OPERATION

The system controls the level into the storage tank automatically via the non-mercury operated float switches.

**Assist Start Float** is set to the level at which the second pump is required to start.

**High Level Float** is set to the level at which the alarm is required to give warnings of potential flood conditions. This should be set at the level of the **INLET** to maximise the tank capacity.

**Duty Start Float** is set to the level at which the first pump is required to start.

**Stop Float** is set to the level at which the pumps are required to stop. This **must** be set above the volute of the pump.

## DUAL PUMP CONTROL PANEL

The panel allows for manual run and test of the pumps and also automatic operation, giving a changeover of duty after each cycle, to give even pump wear.

The control voltage is kept low by the use of an isolating transformer giving 24V AC to the remote non-mercury switches and door mounted instruments.

|          | INDICATOR            | LAMP COLOUR |
|----------|----------------------|-------------|
| <b>A</b> | Pump 1 Running       | Green       |
| <b>B</b> | Pump 1 Tripped       | Red         |
| <b>C</b> | Control Healthy      | White       |
| <b>D</b> | Pump 2 Running       | Green       |
| <b>E</b> | Pump 2 Tripped       | Red         |
| <b>F</b> | Pump1: hand-off-auto |             |
| <b>G</b> | High Level           | Red         |
| <b>H</b> | Pump2: hand-off-auto |             |
| <b>J</b> | Cancel Alarm         |             |
| <b>K</b> | Audible Alarm        |             |
| <b>L</b> | Isolator: On-Off     |             |





## 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 TO PROVIDE A DRY EXCAVATION.**

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.

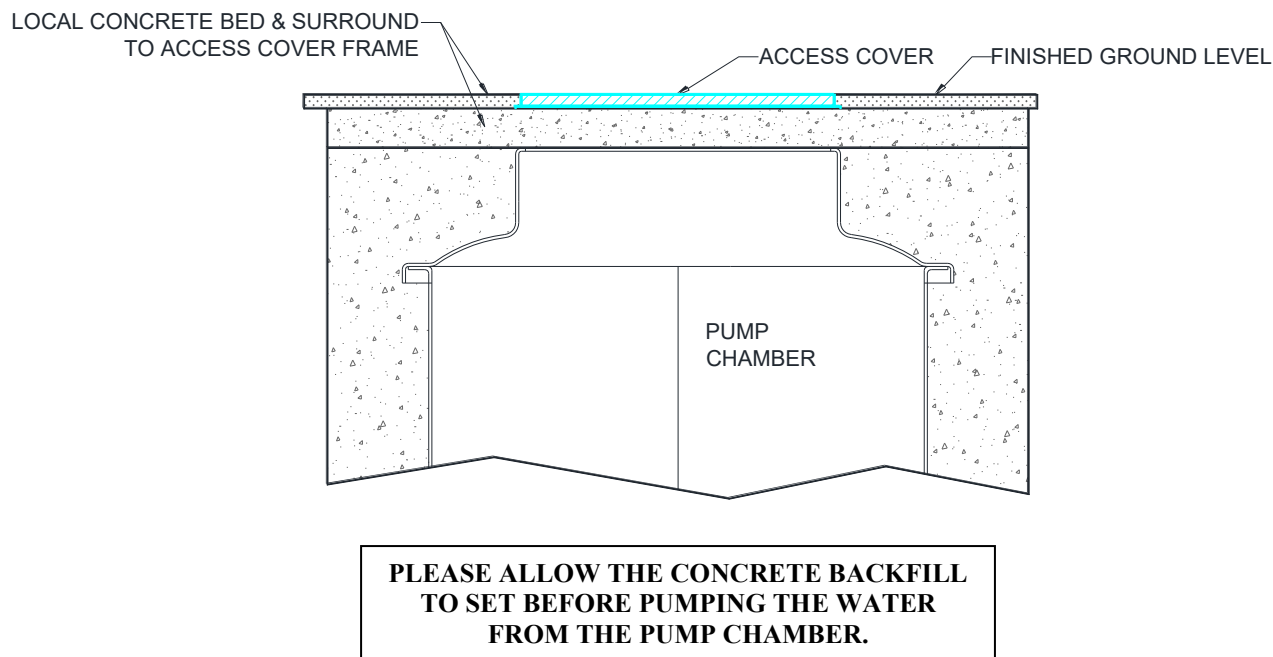
### Pre-Installation Inspection

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 whilst 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.**



### 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.

### **Custom Engineered Below Ground Pumping Stations**

As manufactures of the PumpMatic range of below ground pumping stations, which is available in a variety of sizes allowing them to be easily matched to each location, Pump Technology Ltd. also engineer and manufacture custom tanks to meet more complex and demanding site requirements.

Like our PumpMatic range, these tanks are available either as tank only, or as a complete package including pumps, covers, control panels and kiosks.

Please contact our in-house consultant for the sizing and specification of your pumping requirements.







### ● SERVICE ENGINEER -

All Pump Matic<sup>™</sup> pumping stations are supported by our in house Service Team and authorized National Pumping Partners. Call **0118 9821 555** for-

- Installation
- Commissioning
- Maintenance
- Repair

### Other Products - Sewage & Waste Water pumping systems

- **FlushMaster:** Domestic / light commercial behind toilet pumping system
- **EffluMaxi:** Commercial floor mounted sewage pumping system
- **DrainMajor:** Domestic / commercial floor mounted wastewater pumping system



### Pump Technology Ltd and its Pumping Partners offer nationally:

- The best pump selection and pricing
- Full Installation & commissioning support
- Maintenance & repair contracts nationally
- CPD's / Product reviews / training