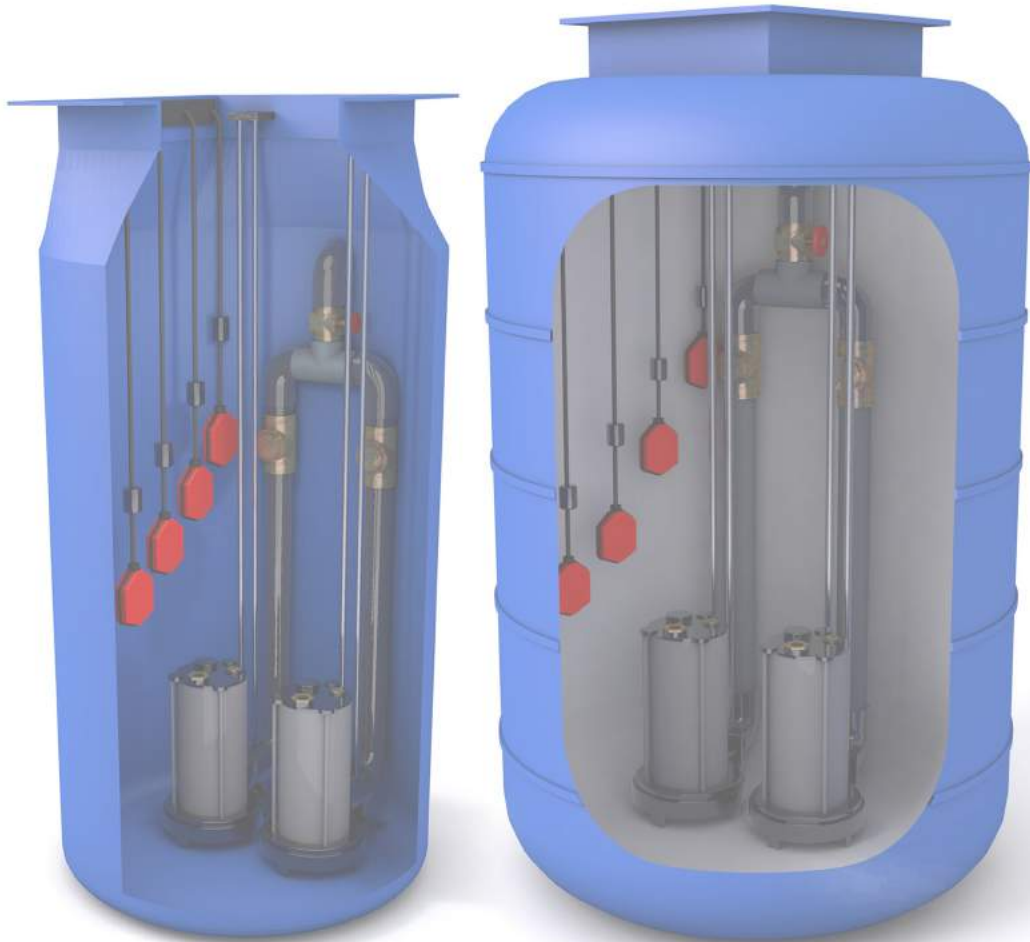




SPD
Sumps & Pumps
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Mini Twin & Maxi Pump Station Installation & Technical Details



Mini Twin & Maxi Pump Stations

Single Drainage Sump & Pump

Installation Instructions and Technical Details

Application

The Mini Twin and Maxi range of package pump stations are designed to collect foul water from an entire property or other building which houses multiple people like commercial offices and other light commercial applications.

Maintenance

The Mini Twin and Maxi are manufactured using high quality components designed to give a long trouble free life – with any type of mechanical equipment regular preventative maintenance is important to keep the product working efficiently on a day-to-day basis. We recommend this system is serviced yearly by specialist pump engineers.

Contact us 01925 661830 or Sales@sumpsandpumpsdirect.co.uk

Discharge Pipe Work

The Mini Twin and Maxi have been designed to accept 2 ½ ” or 3” standard solvent weld discharge pipe. The tank is terminated in a 2 ½” or 3” BSP male thread. For all pipe work and glue please see accessories page.

Inlet

The Mini Twin and Maxi are provided with a 110mm inlet seal, this is supplied loose.

A 140mm hole-saw will be needed to fit the seal (please see accessories page). The 110mm inlet seal can be drilled anywhere on the chamber, but no lower than 500mm from the bottom of the chamber; this is to ensure that the pumps can operate correctly. **Note larger invert can be supplied on request.*

Cable Duct Pipe Work

The Mini Twin and Maxi have been designed to accept 110mm standard drainage pipe.

Electrical Connections

The Mini Twin and Maxi will require a 32Amp type C isolater.



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Installation Instructions

It is important to read these instructions which are for guidance only as it is the contractor's responsibility to satisfy himself that the installation procedure is in accordance with the prevailing ground conditions and good building practice, to eliminate any potential damage to the pump station either during or after installation. Mini Twin and Maxi Pump Stations are manufactured from high density polyethylene and are extremely robust. However as with any pre formed chamber they are susceptible to floatation and hydrostatic pressure exerted in high water table conditions.

1. Select a suitable location for the Mini Twin and Maxi pump station
2. 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 on a roadway, provided that protective backfill is placed around it and a suitable duty manhole cover & frame is used over the opening.
3. Check that no underground cables, pipes or service ducts lie beneath.
4. Excavate the minimum opening in the ground to receive the tank and pipework to be used. If a machine is used to remove the spoil, the sides of the excavation should be battened for stability and a sump left in the one corner for dewatering purposes.
5. The depth of excavation needs to be at most 500mm deeper than the overall tank (plus extra roof slab – if applicable) depth. This extra depth is required to allow for the construction of a hardcore/concrete base. If the excavation is dug by hand, the sides will require shoring up for safety, to prevent earth slippage.
6. A dewatering pump may be required to control any ground water present.
7. Some clean hardcore should be placed and consolidated in the base of excavation. Usually, this will need to be about 200mm thick.
8. Lay concrete (minimum grade 25) to a minimum thickness of 150mm on top of hardcore. Compact well down.
9. Lower the tank onto the damp concrete base, allowing the base feet/mouldings (if fitted/feet not fitted on tanks smaller than 1m diameter), to settle in. Ensure correct orientation of the inlet/outlet pipes and other connections.
10. If the inlet socket(s) is positioned less than 500mm up from the base of the tank, make this connection at this point.
11. **FILL THE TANK WITH APPROXIMATELY 700MM DEPTH OF WATER**

Pour concrete surround in situ to a thickness of approx. 100mm and to a height of 600mm from concrete base using minimum grade 25 concrete. The concrete must be evenly poured around the tank periphery, and must not exceed the depth of water in the tank. The concrete should be vibrated to leave no voids. Care must be taken to ensure that any pipes (or other connections) made are not damaged. Concrete will secure into position any pipes that have been connected. During concrete pour, ensure that the tank is vertical (by use of a spirit level across the tank's opening). Additionally, ensure that the tank is at the correct depth level. Allow this concrete "anchor" to set.

DO NOT REMOVE THE WATER FROM THE TANK

We recommend that the tank is fully enclosed in concrete to provide extra support.

THE CONCRETE MUST BE EVENLY Poured AROUND THE TANK PERIPHERY AND MUST NOT EXCEED THE DEPTH OF WATER IN THE TANK – THE WATER LEVEL SHOULD BE GRADUALLY RAISED (CONSISTENT WITH THE INCREASING LEVEL OF CONCRETE Poured) AND SHOULD REMAIN 100MM HIGHER THAN THE CONCRETE BACKFILL. LEAVE THE WATER IN THE TANK UNTIL THE CONCRETE HAS SET FULLY.



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Installation Instructions Continued

12. Make connections of site pipework, cable duct @ 3" MIN DIA and vent (if applicable).
14. (If required) construct concrete cover slab (with access opening) of maximum 200mm thickness, ensuring that the slab is supported by consolidated backfill. Or utilise engineering-brick courses to the sides of the GRP opening/manway, again these must be supported by consolidated backfill/concrete.
15. The access cover/frame would have been supplied unattached from the tank. Set frame into concrete cover slab or onto brick courses.
16. Construct concrete plinth for control panel kiosk (where applicable).
17. Empty the tank of water, ensuring that any debris is removed at the same time. Partly refill the tank with clean water for testing the system upon commissioning, and to facilitate a flush-through of the discharge pipe prior to sewage/drainage pumping.
18. Install the pumps and float switches (and interconnecting cables – where extensions are required), drawing these electrical cables through the cable duct to the proposed position of the control panel.
19. Position the control panel (and kiosk – if applicable).
20. Provide a suitable electrical supply – this to be isolated and adjacent to the new positioned control panel.
21. Make the final electrical connections (as per the "field connections" instruction provided with the control panel).
22. Commission the packaged pumping station.
23. Pump(s) should not be left in the pump chamber after installation if the pump station is to remain unused for any length of time. Moisture ingress may occur causing motor burn out on start up.



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Control Panel Details.

The control panel is mounted adjacent to the pump station, an audible alarm will be heard in the case of pump failure.



*Picture is example only and may be subject to change

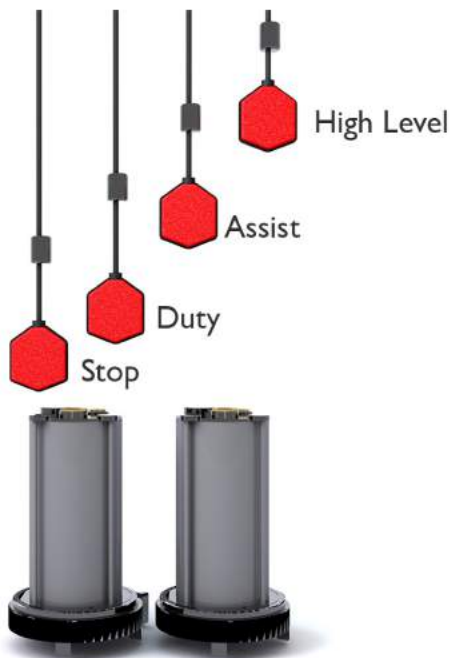
Specifications

- Door interlocked isolator
- Motor fuse and thermal protection
- Alternate pump duty
- Pump Klixon connections
- 24V AC central circuit
- Duty standby or assist operation
- Pump running indication X2
- Pump tripped indication X2
- Hand-off-auto sector switch X2
- Pump tripped X2 H/C/A

Dimensions

Width: 300
Depth: 180
Height: 300

Float Switch Arrangement



Floats should be attached to the float bracket provided at the top of the tank.

The first float (stop) should be located 100mm above the pumps or at the lowest invert.

Once the float is fitted in this capacity the float should then rise 100mm in a vertical motion.

*Notes

Make sure that the weight is fitted 150mm from the float device.

When connecting the floats the blue wire is not required.



Disposal of Items

Why does it matter?

Sewage Pump systems are designed to handle foul water, natural human waste and biodegradable products. Other household waste and non-biodegradable products should never be disposed of through the drainage system regardless of whether your property has its own pump system or not. Disposal of non-biodegradable products will affect the reliability of all pumping stations, causing pumps to block and storage chambers to become congested with waste that cannot be pumped.

Such waste entering Local Authority Pumping Stations or Sewage works creates major problems and maintenance costs..your pump station will be similarly affected.

No two pump stations are alike and only site experience will determine the frequency required, so the second annual cost is indicative of the future cost. We do provide general housekeeping in our scheduled service visit, which will hopefully eliminate your involvement in maintenance. Occasionally the station will need emptying completely with a vacuum tanker if the solids and / or grease build up becomes too much for the pumps to deal with. Again, this varies from site to site on some, it never occurs.

We can only repeat:

Never dispose of non-biodegradable material or waste oil down outlets (ie. Sinks or toilets) that will eventually end up in your pump station, the pumps are designed to transfer bodily waste, toilet paper and household wash waters only. Care should be taken to avoid the disposal of non-biodegradable and synthetic materials in the waste system, which is unacceptable at sewage treatment plants and also risks clogging the pumps.

The blockages and operational problems these items cause make emergency / unscheduled visits (which are chargeable) necessary.

Do not flush

- Sanitary items
- Disposable nappies
- Liners
- Baby wipes
- Cleaning wipes
- Contraception
- Cotton buds
- Cotton wool
- Razors
- Toothbrushes

- Contact lenses
- Incontinence pads
- Colostomy bags
- Used bandages
- Plaster
- Syringes and needles
- Medicines
- Tights
- Dental floss
- Cigarette butts

Do not Pour

- Grease
- Kitchen fat
- Paint
- Engine oil
- House chemicals
- Garden chemicals

