

Guide railed versus non-guide railed pump stations

Pump stations are typically built in three different ways, each with its own set of pros and cons. We illustrate these below, along with a conclusion, to help inform your choice.

1. Pumps mounted on pedestals with guide rails

Pros

- Easy servicing and maintenance of pump station.
- Pumps can be raised when the tank is in flood
- Pumps are securely held in position, resulting in better operation and reliability
- Pumps are easy to remove, replace or repair. They are attached to chains, and slide up the guide rails
- Pumps typically fitted in this way are of higher quality
- The longer lifetime of the entire system results in long term cost savings

Cons

- The initial system cost is higher



Conclusion regarding guide railed versus non-guide railed pump stations

Typically, this is the most cost-effective type of pump station. Although the initial investment made when purchasing the system is higher, there is little difference in the installation cost, it has a longer lifetime expectancy and is much easier (and therefore costs less) to maintain.

2. Free standing pumps mounted on rigid pipe, connected with a union

Pros

- Initial system cost is cheaper than the guide railed pump station above
- Pumps are held in place by rigid PVC pipework

Cons

- Difficult to remove and maintain pumps
- Difficult to remove pumps once the pit has flooded. It would require a tanker to access the union to remove the failed pump
- When the pump is removed, so is the rigid pipework, which makes it awkward to manoeuvre
- There is a large amount of pressure on pipework as it is supporting pumps

Conclusion regarding free standing pumps mounted on rigid pipe, connected with a union

A mid-range pump station, with an average life span. Maintenance can be awkward and breakdowns can take time to resolve. This adds to the lifetime cost of this type of system.

3. Free standing pumps with flexible pipework connected with a coupling

Pros

- Initial system cost is cheaper than the other two systems

Cons

- Difficult to remove and maintain pumps
- Difficult to remove pumps once the pit has flooded. It would require a tanker to access the union to remove the failed pump
- When the pump is removed, so is the flexible pipework, which makes it awkward to manoeuvre
- Pumps are freestanding rather than being held in place, so there is a danger that they will move around
- System life is relatively short and has less reliability
- Flexible pipework splits and goes brittle and has a shorter lifespan than the PVC rigid pipework fitted in the other systems
- Couplings not user-friendly

Conclusion regarding free standing pumps with flexible pipework connected with a coupling

A budget pump station with an average life span; possibly lower than average. Maintenance is awkward and breakdowns can be more frequent as they also tend to block easily. In the long run, these can be a more expensive option than it first appears.

Dura Pump offers free no-obligation advice on Pump Station design, installation and maintenance. If your requirement is budget, mid-range or top of the range, we are willing to help, and meet the stringent demands of your consumer and site.