

OPTIMISED WASTEWATER SOLUTIONS

All-in-one pumping
stations tailored
to your needs



GRUNDFOS PREFABRICATED PUMPING STATIONS

THE COMPLETE PACKAGE. CUSTOMISED AND CE-MARKED

In wastewater transport systems and drainage systems, a prefabricated pumping station is a cost-effective, flexible, and reliable alternative to traditional concrete solutions. With Grundfos as your supplier, you can add documented quality and full customisation to the equation.

Designed to your exact needs

With climate change, varying topographical conditions, different levels of urbanisation, and different types of wastewater, every wastewater network faces its own unique set of challenges. To meet your requirements, we combine a highly modular approach with the most advanced design tools available. This allows us to deliver pumping stations that are tailor-made to your project.

Fully documented and CE-marked solutions

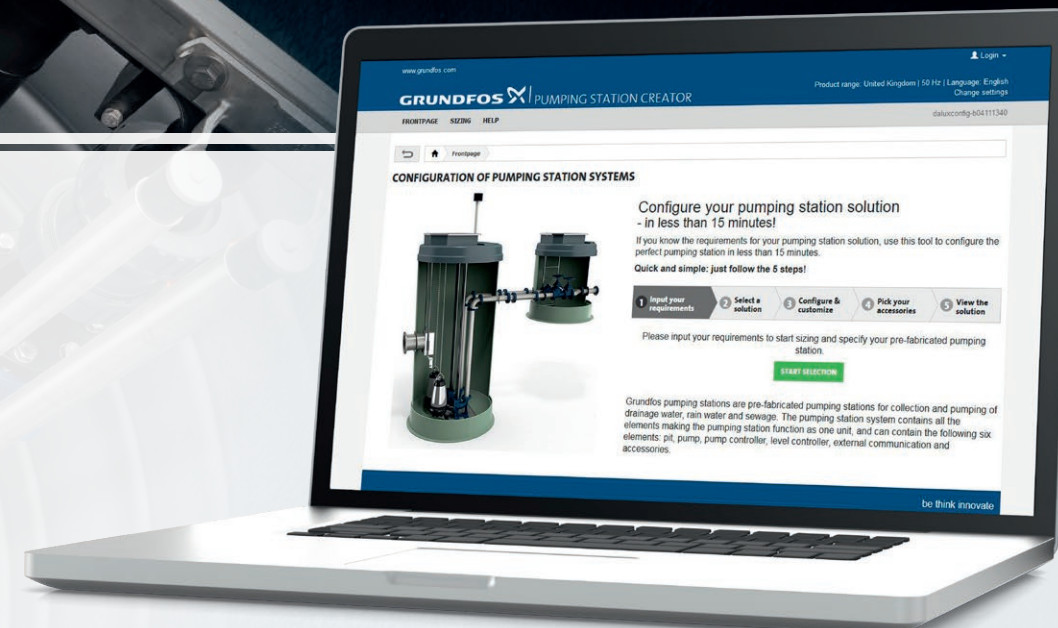
When you invest in a Grundfos prefabricated pumping station, you get a fully documented, CE-marked solution, with all components designed for perfect compatibility. As the marking covers the entire pumping station, you avoid the hassle of creating the CE declaration of conformity before it is taken into use.

Reduce construction costs and installation time

Our pumping stations are *plug'n'pump* and designed for swift installation, with pumps, controls, tank, pipework, level sensing system, variable speed drive, and a full range of communication possibilities in one neat package. Using our application expertise, we can assist you in every step of the process – from planning to commissioning.

Tried and tested to perfection

Our pumping stations are built from the best materials, designed with the most precise tools, and quality controlled extensively. With thousands of units already in action, you can rest assured that your solution has been field-tested to perfection.



Try our new Pumping Station Creator

DESIGN YOUR OWN PUMPING STATION IN MINUTES

1 Input your requirements

It is quick and easy to design the perfect Grundfos pumping station. Simply log on and type in your project requirements. In 5 simple steps the tool will guide you through the process of specifying the perfect size, features, and functionalities for your project.

2 Select a solution

Based on your input the Pumping Station Creator offers a range of solutions that match your demands. Click a solution to see all the details.

3 Configure & customise

Customise your pumping station by adding your choice of manifolds, pressure pipes and so on. See a detailed technical drawing of your exact pumping station.

4 Pick your accessories

To complete the design process, choose the right accessories e.g. centre drills and hole saws.

5 View the solution

Now, you are ready to download a full report containing everything you need to place an order. One click of a mouse, and you will receive a full specification of your project with a unique specified quotation text and CAD drawings.

Try the Pumping Station Creator at product-selection.grundfos.com

WHEN TIME IS OF THE ESSENCE

Optimise every step of your process with a prefabricated pumping station from Grundfos

1. Planning

Traditional concrete pumping stations require detailed planning, but a prefabricated pumping station will drastically reduce project complexity and thus the time spent in this phase. We can also help you specify your entire system to ensure an optimal design using our advanced system simulation tools.

2. Production

Our pumping stations consist of four main elements: Pumps, tank, pipework, and controls. This modular approach means that as soon as the right pumping station for your project has been selected, production runs swiftly and smoothly. To ensure the perfect design, our solutions build on the insights of thousands of installed units and undergo extensive quality control before shipment.

3. Preparation

With a prefabricated pumping station, the need for expensive, time-consuming engineering and construction work is kept to a minimum. We can help you decide on optimal placing of the pumping station based on advanced system calculations.

4. Installation and commissioning

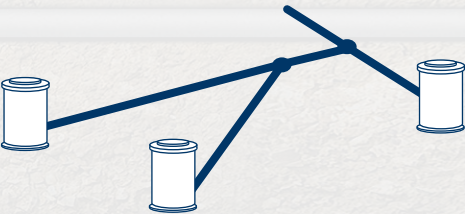
Our pumping stations will reduce installation time by as much as 80%. Simply lower the pumping station into the hole, position the inlets, connect the piping, and adjust the level sensors according to our recommendations. With a thorough commissioning from our experienced engineers, your pumping station will perform perfectly and in accordance with your needs.

5. Operations and maintenance

Expect extremely reliable operation with all components of the pumping station designed to work together seamlessly. Maintenance is quick and easy due to convenient access to pumps and valves. If you wish, we can tailor a service contract to your needs and let our service professionals keep your system running optimally at all times.

APPLICATIONS

Prefabricated pumping stations are built to handle effluent, drainage, and sewage from domestic, commercial, and industrial buildings as well as surface water from highways and roads. Overall, they are used in two main types of sewer systems:



Pressurised sewer systems

A pressurised sewer system is ideal for sparsely populated areas and areas where ground conditions makes gravity installations too expensive. We offer pumping stations fitted with efficient and reliable grinder pumps to prevent clogging in the narrow pipes of these systems.



Gravitational sewer systems

Our pumping stations can be used as lifting stations in traditional gravitational sewer systems as a cost-efficient, environmentally friendly, and highly reliable alternative to expensive concrete solutions – both in new-build and in refurbishment projects.



GRUNDFOS SERVICE SOLUTIONS

With Grundfos as your supplier, you have access to a range of service solutions. Our commissioning service ensures that your pump runs optimally, that components will not wear out due to incorrect installation, and that system and pump are fully compatible. Our Pump Audits and Energy Checks offer valuable insights allowing you to improve system efficiency. Should you wish to replace an existing pump our flexible replacement service makes ordering trouble-free. And with our around the-clock-spare part service you have constant access to original service parts, ensuring high reliability and long system lifetime.

Find all our service offerings on grundfos.com/service



FLEXIBLE AND POWERFUL

GRUNDFOS PREFABRICATED PUMPING STATION

Sturdy one-piece moulded pit

Polyethylene pump pits that by far exceed the lifetime of a concrete pumping pit. Highly resistant to aggressive liquids.

Individually positioned inlets

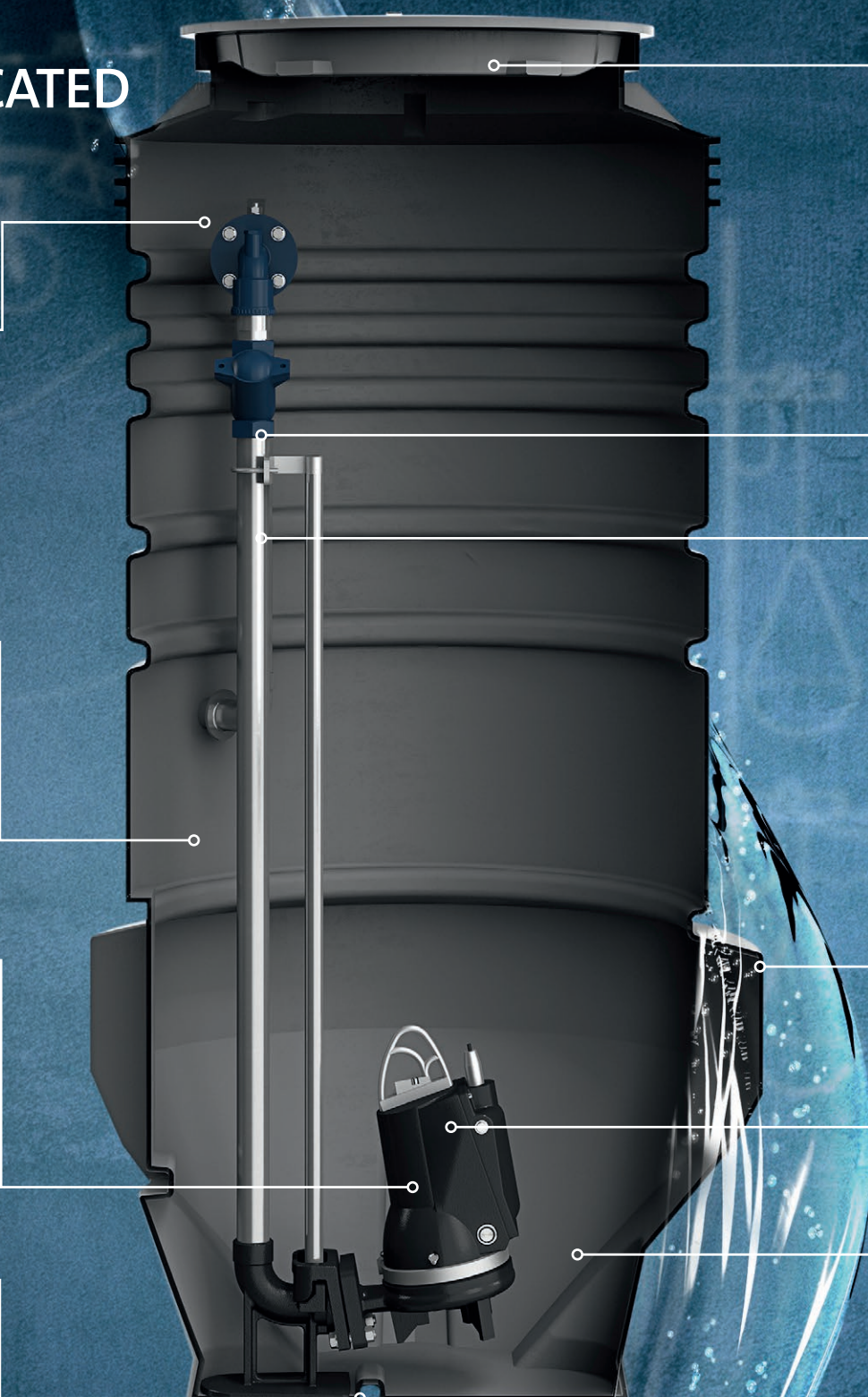
Drill on-site with a cup wheel cutter for perfect positioning every time.

High performance pumps

Choose from a wide range of highly efficient Grundfos pumps with unmatched reliability.

Service friendly

The auto coupling is not attached to the bottom, but kept in place by the bottom design. This means that all components can be serviced from the surface without entering small diameter pumping stations.



PE top cover with unique closing mechanism

Unauthorised access prevented with special bolt. Traffic covers are also available up to class D – 40 Ton.

Valves/valve chamber

High quality non-return valves and closing valves are an integrated part of the package.

Corrosion-free pipework and valves

To achieve high reliability and easy service pipings are designed in high quality stainless steel or PE.

Shoulders that give an increased sump volume – patented by Grundfos

The unique shoulder design ensures that the pumping station remains in place without using a concrete foundation - even with high groundwater levels.

Intelligent control solutions

A full range of options for monitoring, control, communication, and optimisation either in separate control cabinet or build into the pump.

Unique pit design for reduced sludge and odour problems

All Grundfos pumping stations feature a benching bottom design with self-cleaning properties, which minimises the risk of hydrogen sulphide creation, odour problems, clogging, and, in turn, maintenance costs.

System simulation

OPTIMISED SYSTEM DESIGN

Grundfos offers pressurised sewer network modelling using software that simulates your entire system. This allows you to make informed decisions based on advanced calculations. The modelling is tailored to take unique flow patterns in the pipes into account and gives you a precise picture of what to expect from your system – including if there is a risk of high hydrogen sulphide levels due to long retention times.



The outcome

A thorough report enabling correct prioritisation when designing your wastewater solution, in accordance with your planning, investment, and payback requirements.

Your benefits

- Optimal system performance
- Save time and money

Consult your local Grundfos sales engineer to find out if your project will benefit from network modelling.

Grundfos AUTOADAPT

OPTIMISED PUMPING STATION MANAGEMENT



Grundfos AUTOADAPT quite simply removes all external sensors, switches, and cables from the pit, combining all sensors in a single pump that adapts automatically to the dynamic conditions in the pumping station. This simplifies installation, commissioning, and operation – and increases reliability.

AUTOADAPT pumps can be easily integrated into SCADA systems or remote monitoring systems. Available as sewer grinder pumps up to 4 kW and as drainage/effluent pumps up to 2.6 kW.

READY FOR ANYTHING

GRUNDFOS LARGE PREFABRICATED PUMPING STATION

Extremely durable tank

Glass-reinforced polyester tank with unmatched robustness that by far exceeds the lifetime of a concrete pumping pit.

Valves/valve chamber

High quality non-return valves and closing valves are an integrated part of the package.

Flanged inlet or inlet sleeve

Water tight connections as standard up to DN600. Screen baskets or baffle plates are optional.

High performance pumps

Choose from a wide range of highly efficient Grundfos pumps with unmatched reliability.

Lockable hatch with built-in safety features

Anti-slip roughing on the cover. Elevated hatch frame to prevent accidental falls and built-in safety grid as default. Traffic covers are also available up to class D - 40 Ton.

Pressure tested, high quality pipework

Everything is quality controlled prior to assembly.

Prepared for various types of level controls

The unique hanging system makes servicing and repositioning easy.

Corrosion free pipework

Stainless steel for pipes up to DN250 and PE pipes up to D160. Focus on use of flowbends to reduce energy cost where possible.

Intelligent control solutions

A full range of options for monitoring, control, communication, and optimisation.

Unique pit design for reduced sludge and odour problems

All Grundfos pumping stations feature a benching bottom design with self-cleaning properties, which minimises the risk of hydrogen sulphide creation, odour problems, clogging, and, in turn, maintenance costs. The spheric design ensures robustness and guides sedimentation to the pump inlets.

COMPETENCES AT YOUR DISPOSAL

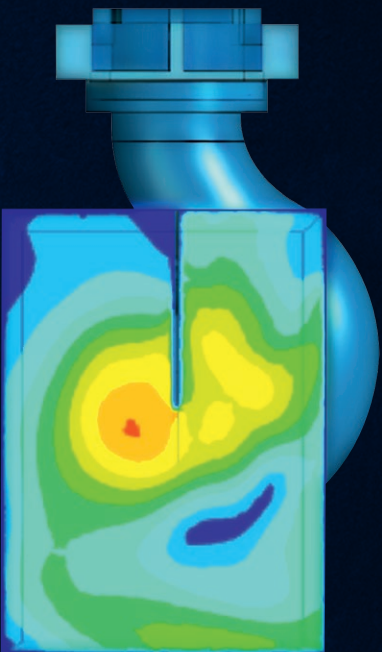
Any wastewater transport project starts with thorough planning taking current and future demands into account. Considerations include how to avoid water hammer, siphoning, venting needs, utilisation of retention basins, parallel rising mains, hydrogen sulphide problems, and much more. Designing a future-proof pumping station layout based on these insights takes experience and a well-equipped toolbox.

Experience-based expertise

Our knowledge is available through local representatives and dedicated customer service units with support from the Global Water Utility Competence Centre. Experienced engineers, supply chain experts, and project managers are ready to contribute to your solution with research-based know-how and in-depth solution knowledge.

Advanced tools

Our toolbox consists of, among many other things, water hammer calculation software, CFD analysis, water age simulations, and velocity calculations – all building on the experience and insights we have gained from hundreds of projects. Combined, the tools help us minimise your total system life-cycle costs without compromising uptime and efficiency.



CFD enables our analysts to simulate fluid flows without expensive on-site measurements, allowing us to discover and correct flow problems before construction begins.

TRIED AND TESTED: 100,000 UNITS IN ACTION WORLDWIDE

“A good cooperation. Grundfos delivered creative solutions to a range of technical issues”

Jan Sørensen, Director, MSE A/S (contractor)



Client:

Guldborgsund Forsyning, Denmark

Challenge:

With 900 km of sewers and 300 km of network pipes dating back to the 1950's, the sewage system of Guldborgsund Municipality was in great need of renovation. The first stage of the project covered 675 properties spanning both urban and rural areas. Based on long-term environmental benefits, it was decided to build an integrated pressurised sewer system.

Solution:

The project included the delivery of 675 pumping stations fitted with SEG AUTOADAPT grinder pumps. Because many of the pumping stations were placed on private property, a range of non-standard solutions with wireless access to controls from up to 30 m were needed. Grundfos took on the role as full-line supplier, ensuring full integration of all components in the system, and based on the feedback, exceeded the expectations of Guldborgsund Forsyning.

“Grundfos helped us find effective solutions to complex challenges in a project with demanding site limitations. We are extremely satisfied”

Ghen Xue, Chief Designer, Chongqing Design & Research Institute, China Local Technology & Engineering Group



Client:

Chongqing Design & Research Institute, China Local Technology & Engineering Group

Challenge:

In a highly populated area of one of the biggest cities in China, Grundfos was asked to participate in the renovation of an important road. The new sewage network included 1593m of pipelines, 48 units of check wells, and one pumping station. The project period was not to exceed 90 days and geological surveys stated that a traditional concrete station would be too expensive.

Solution:

Grundfos delivered a powerful prefabricated pumping station that took up only 10 m², with only three days of installation and a total of 47 days including construction. The pumping station needed only a small construction site and had a minimal impact on traffic.

The project was completed on time, within budget, and to the great satisfaction of both owner and designer. Upon completion, the pumping station was almost invisible to the naked eye.

INTELLIGENCE ON EVERY LEVEL

Grundfos iSOLUTIONS is a total system approach, combining pump system expertise, application insights, and intelligent products to offer the best solution to your challenge.

Fast commissioning and installation

All components of Grundfos iSOLUTIONS – from pumps and pits and to controls and monitoring modules – are built for easy setup and installation. The parts integrate perfectly to save expensive time onsite and feature user-friendly interfaces and pre-configured control modes for easy commissioning.

Reliable performance and increased uptime

The intelligent controls of Grundfos iSOLUTIONS allow your pumping station to notify you before service is needed, while automatic flushing sequences and reverse rotation prevent blockages and minimise operational costs. With our intelligent

communication solutions you get a complete overview of your system, thorough reports, and important insights – without large investments in SCADA systems.

Higher performance and lower energy consumption

Grundfos iSOLUTIONS combine drives, controls, sensors, and intelligent technologies to analyse duty conditions in your system and adapt operation to the exact needs. The pumps in the portfolio are among the most energy efficient on the market, and electronic motor protection provides a complete overview of system efficiency. What this means to you is large energy savings and high performance at all times.

Grundfos iSOLUTIONS adds value to your wastewater transport system, minimising the cost of installation, commissioning, and operation. Highlights include:

Grundfos Dedicated Controls – intelligent monitoring and control

Dedicated Controls are designed for controlling up to six pumps with integration possibilities to any SCADA system. A very large graphical user interface and a built-in setup wizard make commissioning easy.

Grundfos CUE – frequency converters for speed control

Pre-programmed for Grundfos pump families. Set-up and commissioning of a Grundfos CUE is quick and easy compared to standard frequency converters.

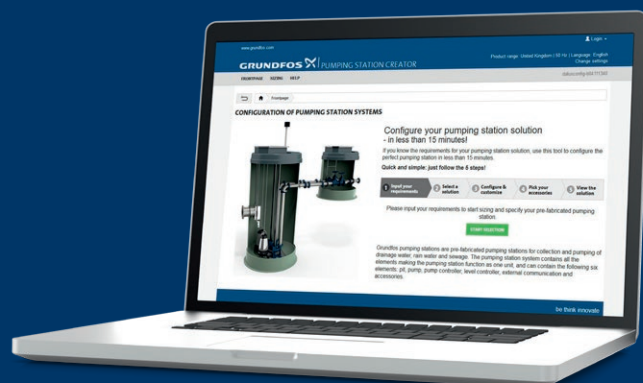
Grundfos MP204 – electronic motor protection

The MP204 is developed specifically for pumps. The protection covers over- and under load, motor temperature, power factor, phase failure, and much more.

GRM – Grundfos Remote Management

GRM is an internet-based remote monitoring, management and reporting system, providing overview of your entire wastewater network without large investments in traditional SCADA systems.





To learn more go to:

www.grundfos.com

www.product-selection.grundfos.com