

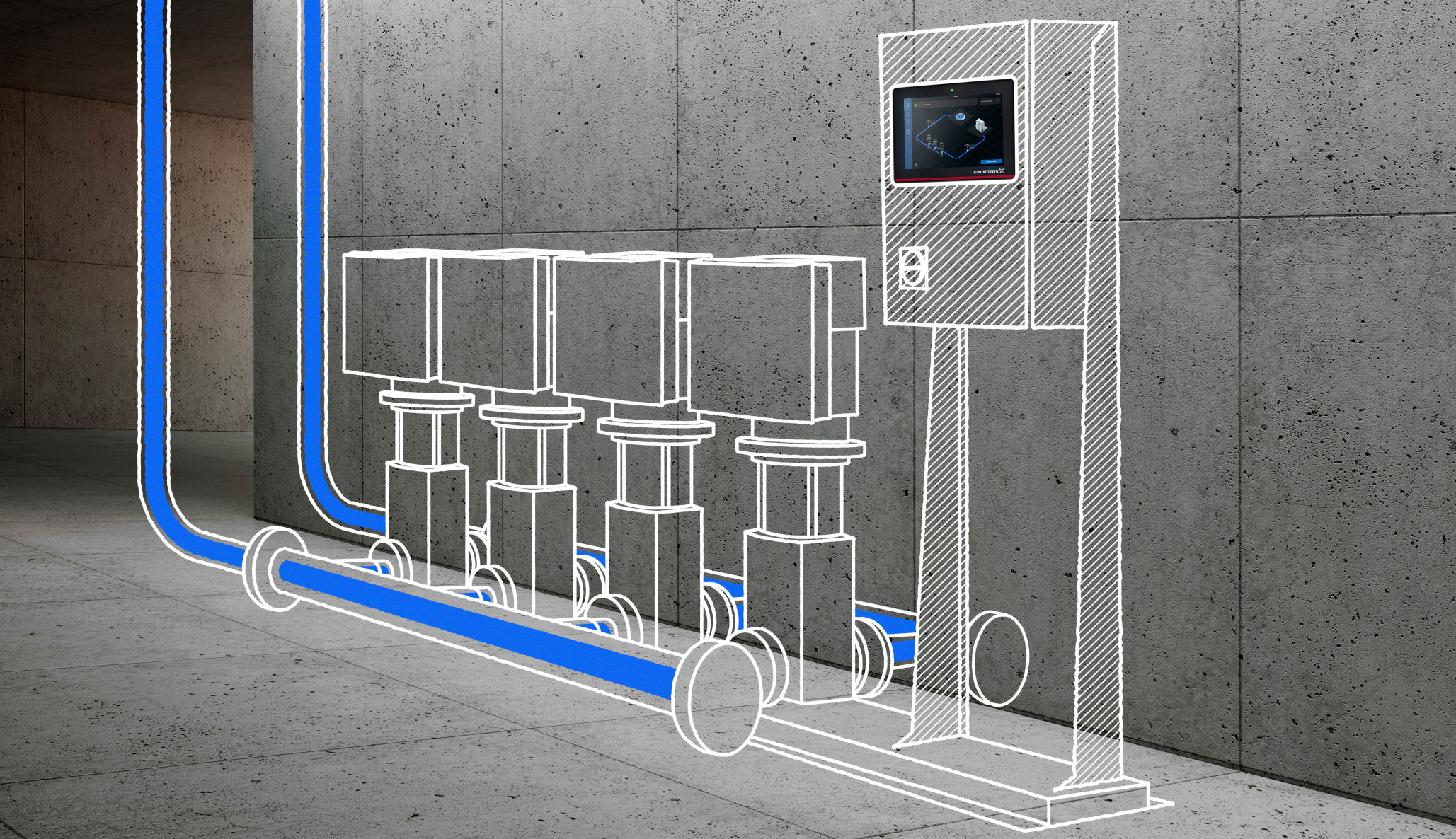


Transform your pumping systems with intelligent controls for an energy-efficient future

Learn more at
grundfos.us/GENIECON

GRUNDFOS 

Possibility in every drop



Did you know?

Water lost through leaks in pipes and the network can make up 8-60% of total supply, depending on system condition.*

*Source: The Danish Environmental Protection Agency
<https://eng.mst.dk/water/drinking-water/preventing-water-loss>

Boost energy efficiency of your water system in all applications

Access to clean, pressurized water is essential for the smooth operation of modern buildings and systems. When standard solutions are not enough, Grundfos Modular Pumping Systems offer unmatched efficiency with a user-friendly interface, ensuring reliable water supply while optimizing energy use across application areas:

- Commercial HVAC
- Commercial pressure boosting
- Commercial hot water recirculation

Optimize your system with multiple pumps

Water systems need to meet varying demand at different times of the day, with the requirement fluctuating significantly. Efficiency is key across different flow levels. Using multiple pumps, rather than a single large pump, is more cost and energy efficient in this scenario. Multiple pumps enable your system to be more efficient and provide only the required flow rate. This helps save energy, especially when demand fluctuates dramatically.

Intelligent control for superior system performance

Efficiency and energy savings start with advanced, intelligent control. GENIECON, our next-generation intelligent control unit is designed for seamless operation of parallel-connected pumps. With its robust control and monitoring capabilities along with intuitive interface and real-time analytics, GENIECON ensures that your system operates at peak efficiency, whatever the demand.

Maximize pump efficiency with smart flow management

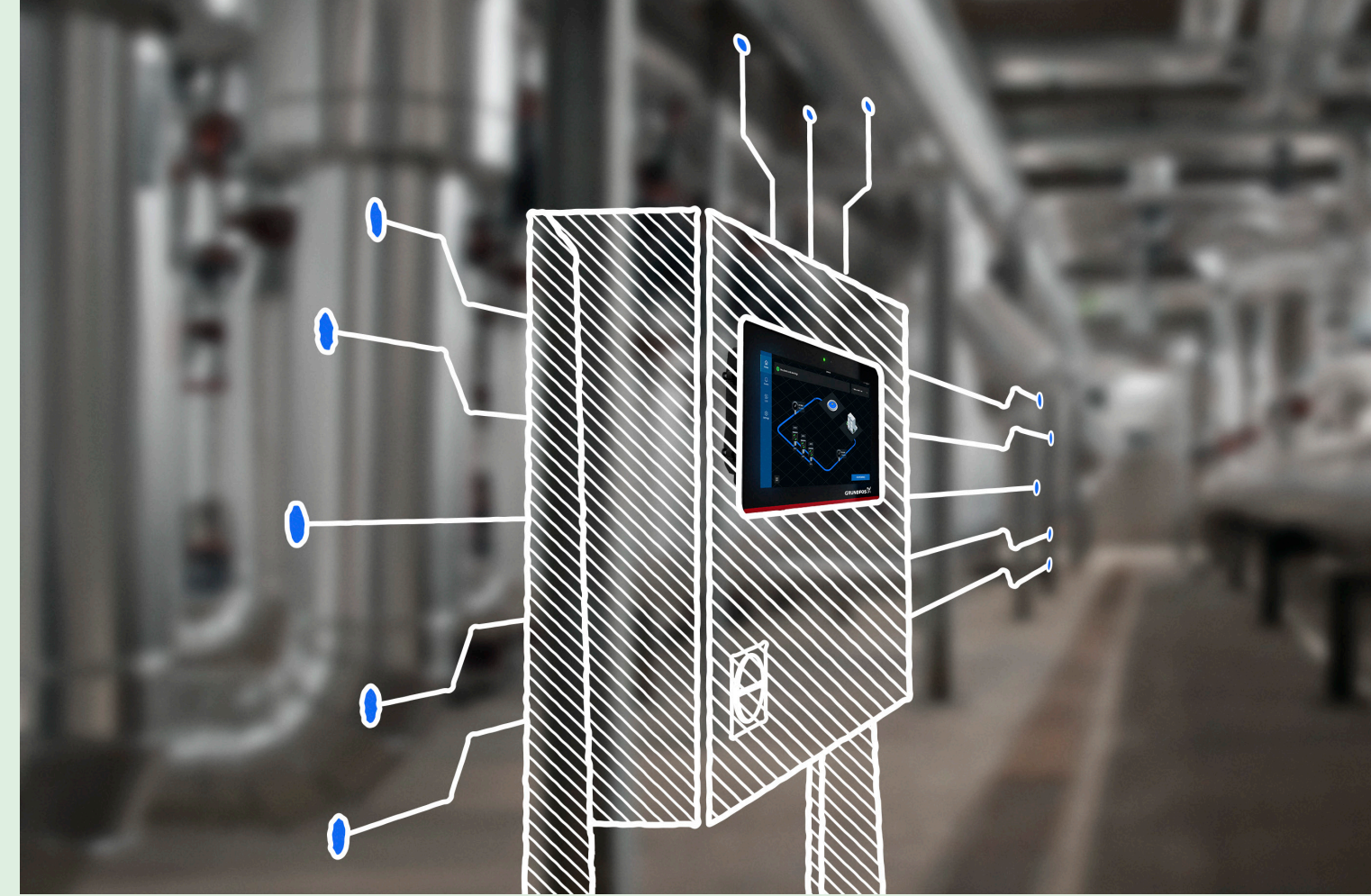
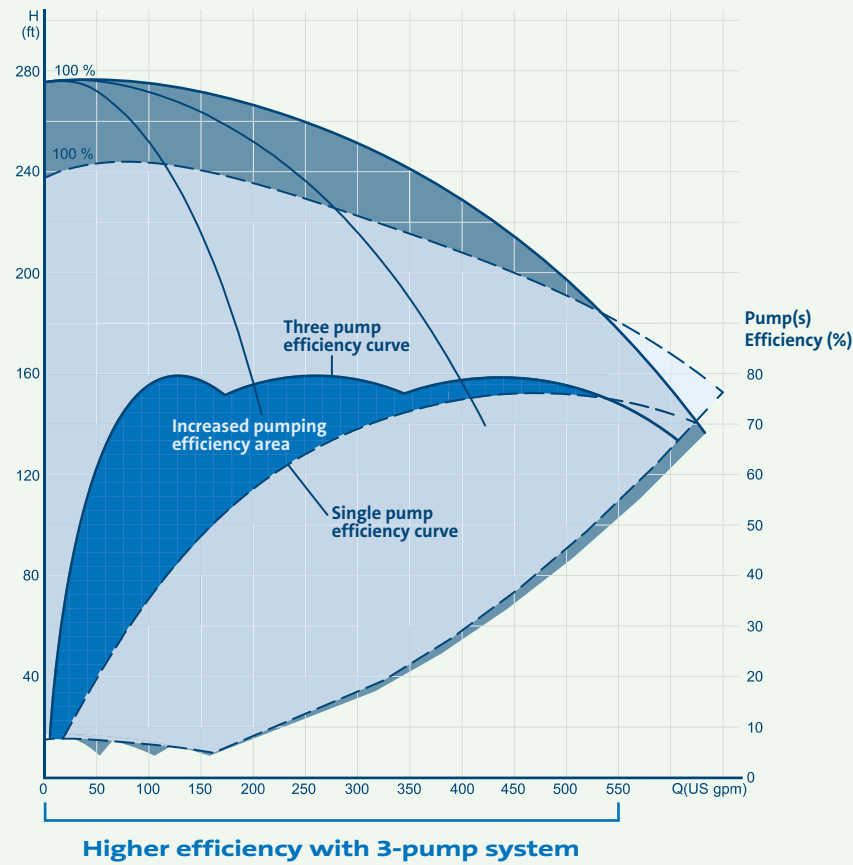
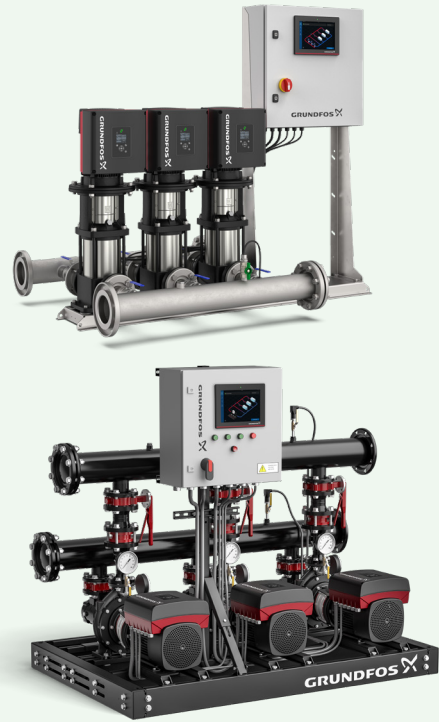
Our proprietary Efficiency Based Staging algorithms continuously evaluate the number of running pumps in a Grundfos modular system. Using this unique approach, the system calculates the optimal number of pumps required at any given time. The pump curve data loaded into the controller enables Efficiency Based Staging and also helps the system provide an estimated flow rate at all times. The intelligent control of GENIECON enables you to calculate the pump speed and number of pumps required based on the curve data, flow rate, pressure, and power requirements – ensuring you get the optimal combination of pumps for efficient, future-proof operations.

Save energy with proportional pressure control

Municipal water systems often deal with significant energy losses due to friction within the pipes. By combining variable frequency drive (VFD) with proportional pressure control, your system can actively manage and reduce friction losses, delivering substantial energy savings and increased operational efficiency.

Reduce non-revenue water

Non-revenue water, water lost through leaks in the piping network, can account for up to 8-60% of total supply depending on the condition of the water system. With proportional pressure control, pressure is automatically reduced during low-demand periods. This helps decrease wear on pipes, reduces leaks, and cuts down on non-revenue water – lowering both energy use and maintenance costs.



Maximize energy savings with efficient pump management

Systems today often use on/off pump solutions based on capacity and do not consider operating efficiency. Operating costs can be optimized by running the most efficient combination of pumps. The figure above, shows how two pumps in operation can reduce the energy at a particular operating point by 12% over one pump in operation even when one pump could meet the requirement based on capacity alone.

Description of points on system curve:

1. Efficiency curve for two pumps in operation, each at 76% speed, pump efficiency at 74% (ETA).
2. Conditions on “control curve” where two pumps in operation are more efficient than a single pump.
3. Proportional pressure “control curve” displays pressure boosting requirement as it varies with flow rate.

Future-proof your operations with the intelligent GENIECON controller

Grundfos Modular Pumping Systems are equipped with best-in-class pumps and motors. And with the advanced GENIECON controller – the brain behind the system – you can take your operations to the next level:

- Reduce energy consumption and improve operational efficiency
- Customize the control system to your specific requirements and applications
- Monitor performance and energy consumption with precision
- Connect effortlessly with BMS, SCADA, and other digital systems for full system overview
- Stay ahead with remote access and regular firmware updates, ensuring your system remains up to date



Control and monitor with precision and ease

Unmatched reliability and system optimization

Precision in control and monitoring is critical for reliable performance of your pump systems. GENIECON offers intelligent connectivity and control with tools to continuously monitor and optimize system performance.

- Quickly identify and resolve potential issues before they become problems with advanced alarm and warning logs
- With flow estimation and multi-sensor control, identify how to optimise system performance and efficiency
- Get real-time insights for better control and operational decisions

Streamlined operations with flexibility and ease

Operating complex systems shouldn't mean complex operations. GENIECON offers an intuitive, flexible interface with cloud connectivity, simplifying how you control your entire pump system and enabling you to easily select components, set parameters, and manage operations in real-time.

- Customize the controller to your specific needs, with user-defined access, configurable status displays, and a screensaver showing critical information
- Get a uniform user experience across all platforms, whether you're on-site or accessing the system remotely



Be future ready with smart connectivity and energy efficiency

Intelligent connectivity and security

In today's connected world, your pump system needs to not only be connected to other systems but also be adaptable to evolve with your future needs. GENIECON is designed to do just that as it integrates seamlessly with other systems via digital connectivity and stays up to date.

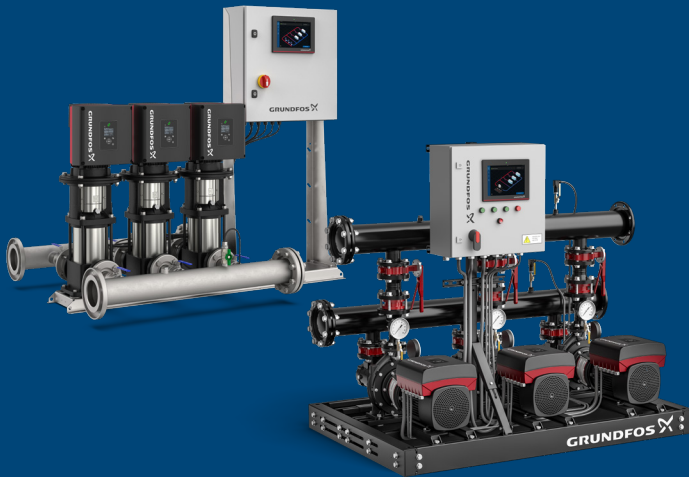
- Control other components via a wide range of protocols seamless integration with BMS or SCADA systems
- Manage your system from anywhere via PC or mobile devices with secure connectivity
- Enable efficiency through remote monitoring, control, and diagnostics of Grundfos systems with the Grundfos GO mobile platform
- Keep your system up to date with the latest firmware updates (over the air or via physical connection), adding new features as they become available

Energy-efficient operations to meet net-zero goals

Pump systems account for a significant portion of global energy use. GENIECON is designed with advanced algorithms and smart controls to reduce energy consumption and minimize heat loss while optimizing performance. GENIECON helps achieve energy efficiency without compromising performance, delivering both sustainability and cost savings.

- Efficiently manage multi-pump systems with intelligent cascade control, optimising pump operation for maximum energy efficiency
- Reduce energy consumption with a proportional pressure function that adjusts pressure based on system demand, minimising friction losses within pipes
- Automatically stop the system during low flow periods to prevent energy waste
- Save energy and reduce emissions with an intelligent controller

Grundfos GENIECON – A new era of intelligent pump systems



Grundfos Modular Pumping Systems

Fully integrated, plug-and-pump systems that simplify installation and commissioning, and boost efficiency — providing you the greatest savings in the shortest time.

GENIECON

The next-generation of intelligent pumping control that enables optimization your HVAC and plumbing systems, energy consumption reduction, to help you achieve your net-zero targets.

More Intelligence. Less Energy.

With over 75 years of research and development, Grundfos leads the industry in innovating intelligent pumps, pumping systems and controls that deliver simple, efficient and reliable HVAC and plumbing solutions for commercial buildings. Improving system performance and occupant comfort using less water and energy has never been easier.

Visit grundfos.us/CBS to explore our full range of intelligent pumping solutions.

Visit grundfos.us/pei to learn more about Department of Energy (DOE) pump energy index (PEI) requirements and PEI ratings on specific Grundfos models.