



Grundfos District Heating

Empowering the district heating systems of today and tomorrow

Find out how we approach district heating in Grundfos and how our intelligent and reliable solutions can help you achieve a seamless green energy transition. So you can address today's demands while preparing for the challenges of tomorrow.

GRUNDFOS 

Possibility in every drop



District heating – an introduction

The solutions to meet the demands of today and tomorrow

The energy landscape is changing constantly. Consumers increasingly demand improved comfort – but how do we balance that with the climate crisis we face?

Due to the climate crisis, we can't continue to increase energy use. We need solutions that can meet current demands, but we also need solutions that prepare us for tomorrow's challenges. Solutions that help us realise a green energy transition. That's where district heating comes in.

Unlocking energy-efficient solutions in district energy, without compromising reliability.

Let's energise tomorrow.

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A key part of the green energy transition

A strategic partner for the green energy transition

District heating is an energy-efficient heating system because it can harness fluctuating renewables, integrate intelligent systems and leverage thermal storage. That makes it a cost-effective and sustainable way to enhance consumer comfort and decarbonise heating systems.

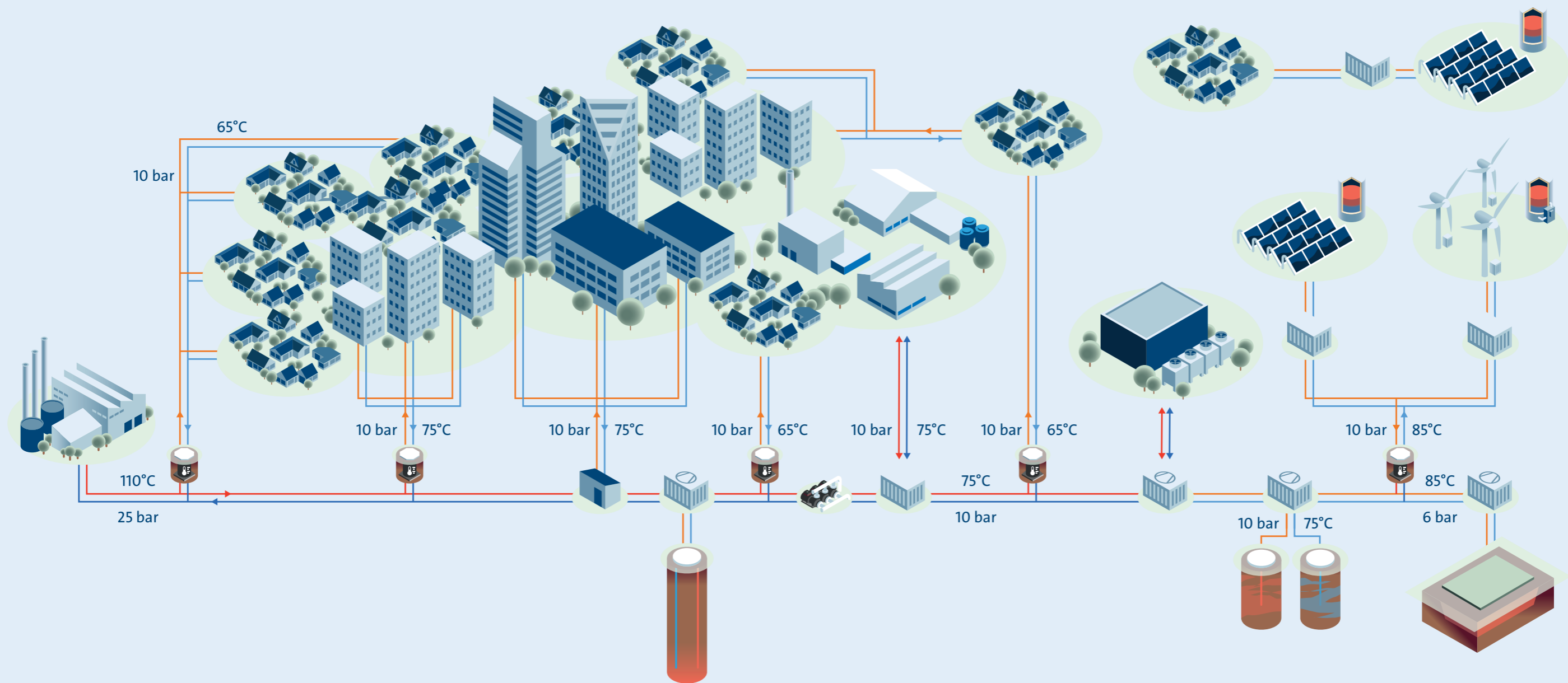
We have supported district heating for more than 50 years and are proud to play a key role in building and optimising some of the world's most advanced district heating systems.

That's why we want to continue to propel district heating utilities towards a seamless green energy transition.

We've already helped many of our customers implement and upgrade their district heating systems around the world, and we will continue to act as a leading strategic partner. Empowering district heating utilities with cutting-edge solutions, know-how and a trusted global presence.



Explore our district heating offerings



Solutions built on intelligence, reliability and connectivity

Grid optimisation and renewable energy

With more and more people demanding increased comfort and energy efficiency, our heating systems and power grids must be equipped to handle fluctuating demands and varying energy sources.

That's why we prioritise grid optimisation as a key focus area at Grundfos. It's a cost-effective way to increase capacity, expand grids and upgrade grid configurations – without the need for further heat production.

District heating makes it possible to integrate renewables into the grid. That way, you can take advantage of local renewable sources like solar, wind, geothermal energy and heat recovery – but only with the right combination of intelligent and connected solutions.

Going beyond single components to optimise the entire system

At the centre of our offerings are our pumps. Because a pump-controlled district heating system enables pressure and temperature optimisation – a paradigm shift that unlocks a

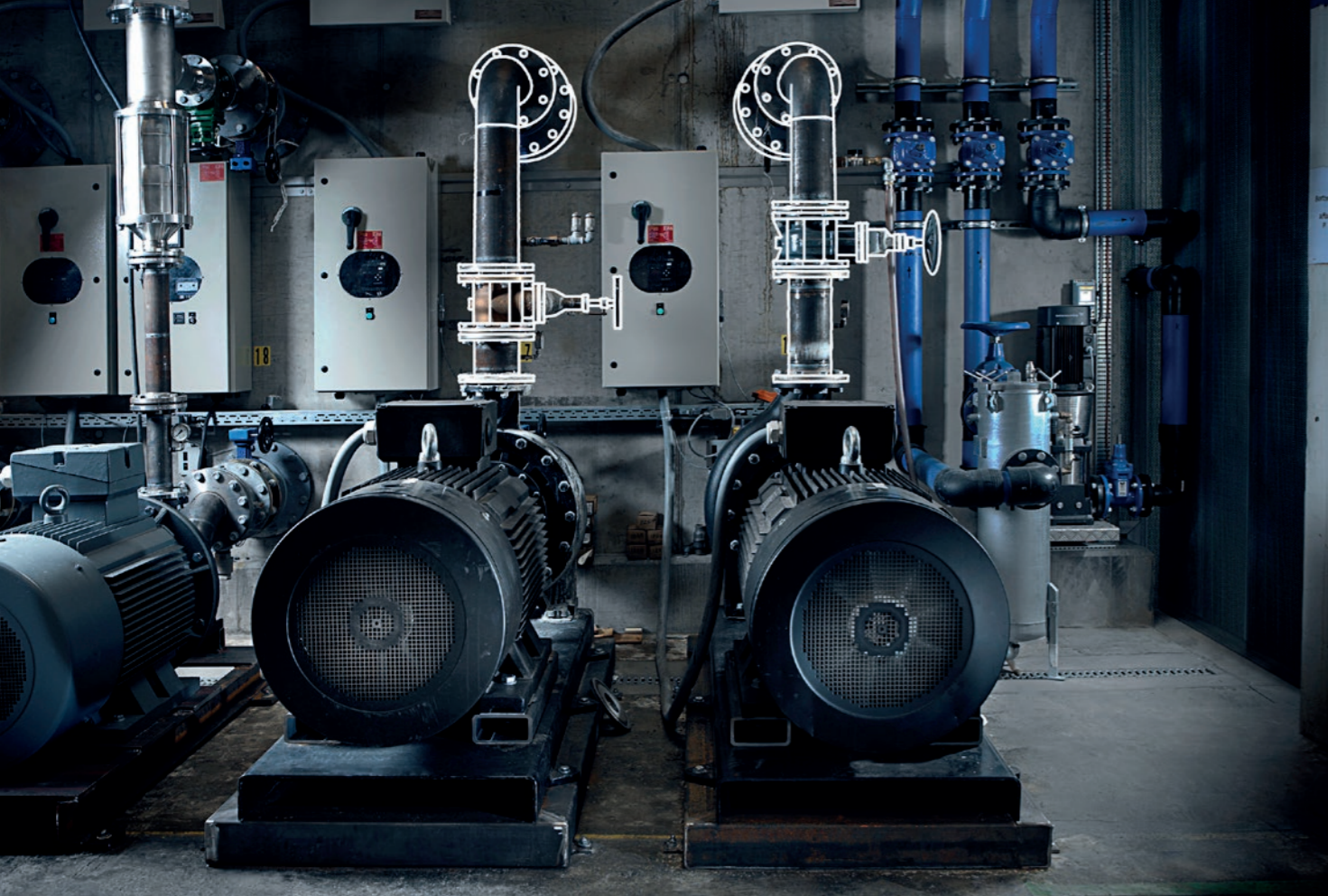
new level of energy efficiency, reduced heat loss and improved pressure control in decentralised zones.

But optimal system performance relies on more than just pumps. That's why our innovative approach builds on intelligent and digital components that enable enhanced connectivity, real-time monitoring and control.

By incorporating connectivity into our pumps and other components, we unlock a new realm of data interaction within the system. Seamless communication between components

allows data to flow freely, meaning we can tap into insights that were previously inaccessible.

And more data means improved analytics that enable better control and make it easy to optimise the entire system continuously. From real-time monitoring and control of your system to easy control and integration into SCADA systems and cloud solutions.



See what our customers say about our district heating solutions

When Grundfos is a part of the solution, you get reduced energy consumption, increased comfort and unsurpassed operational reliability. Read our customers' own stories about how they benefit from the Grundfos approach to district heating.



Albertslund Forsyning uses Grundfos iGRID to control low-temperature district heating

Location: Albertslund, Denmark.
Challenge: The municipal district heating company wanted to deliver customers lower temperature district heating: from upwards of 100°C to 60°C.
Grundfos solution: Grundfos iGRID shunt/low temperature mixing station.
Result: Lower heat and energy loss and more opportunity to utilise sustainable energy sources and surplus heat.

Industry-leading pump solutions

Optimise your operations with efficient pumps

In addition to our intelligent solutions, we also offer a wide range of energy-efficient and reliable pumps and components that can improve your operations immediately.

Many pumps in district heating systems are set to run at full speed all the time to ensure enough heat is delivered at all times. But this comes with some consequences as it leads to huge amounts of wasted energy as full speed is rarely required.

Lowering temperatures through mixing loops

So, how do you get safer and more reliable district heating systems? The key is to lower temperatures in the grid.

By lowering temperatures in the grid, you can reduce heat loss through the pipes and thermal stress on the pipework while increasing capacity and reducing leakages in the system. However, the lower the temperature in the system, the more flow is needed to deliver the same amount of energy. That's why lower pressure and temperature zones are real game changers, as they can deliver on these demands without unnecessary increases in pressure.

High-quality solutions that reduce operating and lifecycle costs

At the end of the day, consistent quality, strength and reliability are key. Otherwise, you'll often have to replace your pumps and equipment, resulting in significant costs and downtime.

That's why our main pumps, the most essential part of any district heating system, are built to perform and built to last. Decades of experience and dedication to craftsmanship ensure solutions that offer maximum power with an absolute minimum of maintenance.

Our high-efficiency e-pumps solutions are powered by IE5 MGE motors and intelligently controlled with our CUE variable speed drive, drastically reducing the total ownership cost.

We also provide pre-assembled modular and prefabricated solutions that simplify installation and commissioning. This is another way we work to meet the growing demand for efficiency, flexibility and adaptation – as well as open collaboration and easy integration across the system.



OPEC Gdynia reduces heating losses and lowers temperatures with Grundfos iGRID Temperature Zone

Location: Gdynia, Poland.
Challenge: Gdynia was looking for an intelligent solution to increase network efficiency, lower the temperature and reduce heat loss.
Grundfos solution: Grundfos iGRID Temperature Zone.
Result: The projected annual savings in the heating network are 984 GJ. The system is also future-ready, as the lower temperature conditions make it possible to connect to integrate renewables and surplus heat.



Warming Fushun's long and bitter winters

Location: Fushun, China.
Challenge: Outdated district heating facilities that created noise pollution and consumed more energy than needed, resulting in failures to meet basic heating demands.
Grundfos solution: A prefabricated, fully integrated, intelligent pump system + remote monitoring and smart control system.
Result: In 2019, the company reduced heat loss by 7.2% compared to the previous year, saving more than RMB12,000 in electricity bills.

Our district heating products

Circulator and e-pumps

Grundfos circulator pumps are low maintenance and cut energy consumption by up to 80% compared to conventional circulators. Our e-pumps combine energy-efficient pumps, motors and drives into one compact, electronically controlled solution. E-pumps can be paired with digital cloud connectivity to enhance energy savings, carbon emission reductions and pump system efficiency.



Grundfos MAGNA

A range of intelligent pump solutions

Grundfos MAGNA intelligent circulator pumps are designed for heating and cooling applications in commercial buildings. The MAGNA range offers a variety of intelligent solutions, whether you need the most advanced monitoring and control or if you're looking to get a simple job done.



Grundfos TPE

The highest-efficiency IE5 motor as standard

Our pioneering IE5-classified motors with integrated VFD bring ultra-premium efficiency across our full range of in-line pumps, intelligently optimising your whole system to save you even more energy, water and lifecycle costs. At 11-55 kW, the TPE extends the advantages further with additional connectivity possibilities and safety features.



Grundfos NBE/NKE

High-efficiency end-suction pumps for demanding applications

Grundfos NBE/NKE end-suction pumps are non-self-priming, single-stage, centrifugal pumps. If you require a pump for demanding applications where flow requirements vary, the NBE is available with a permanent magnet MGE motor up to 11 kW with built-in variable frequency drive and IE5 efficiency to keep efficiency high at all times.



Grundfos CRE

Take control with variable speed

The CRE is a multi-purpose in-line multi-stage pump with a built-in variable-speed drive available in a wide variety of flow and pressure sizes and is built from stainless steel/cast iron. The variable-speed drive continually adapts pump performance to match current conditions and desired pressure, temperature or flow. This makes the CRE perfect for a variety of applications, including water supply and temperature control.

Single and multi-stage pumps

Grundfos single and multi-stage pumps are designed for use in commercial buildings and applications like district heating. The pumps are equipped with standard motors and mechanical shaft seals.



Grundfos TP

Efficient pumps that deliver power where it's needed

The world's most comprehensive range of high-efficiency, vertical in-line pumps with a mechanical shaft seal. Adaptable to small and large-scale systems.



Grundfos NB/NK

Dependable NB/NK end-suction power for demanding applications

Grundfos NB/NK end-suction pumps are non-self-priming, single-stage, centrifugal pumps with axial-suction port, radial-discharge port and horizontal shaft. If you require a multi-purpose pump suitable for a number of demanding applications, the NB/NK ensures reliable and effective supply.



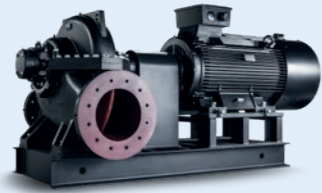
Grundfos CR

Vertical centrifugal pumps for reliable efficiency

With world-class efficiency, flows up to 320 m³/h and 40 bar working pressure, the CR is the perfect vertical centrifugal pump for a range of demanding applications, such as liquid transfer and circulation and pressure boosting of cold or hot water.

Split-case pumps

Split case pumps are in-line pumps in which the pump housing is divided axially into two parts. They are characterised by their high efficiency and low noise levels, as well as how easy they are to service. The pumps are designed to work in a variety of applications, including public water supply, district cooling and HVAC systems.



Grundfos LS

Easy-to-maintain horizontal split-case pump

Grundfos LS is a horizontal, single-stage or double-stage, split case pump. The axially split design allows easy removal of the top casing and access to the pump components without disturbing the motor or pipe work.



Grundfos LSV

Long-coupled, split-case pumps

Grundfos LSV is a vertical, single-stage or double-stage, split-case pump. The axially split design allows easy removal of part of the top casing and access to the pump components without disturbing the motor or pipe work.

Packaged and modular solutions

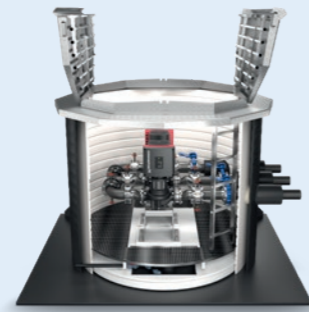
Modular systems, often known as off-site builds or engineered to order, are designed, engineered, manufactured and packaged in a safe, controlled factory environment. As the construction sector is pressured towards increasing efficiency, there is a growing trend towards numerous applications being built off-site.



Grundfos Hydro MPC

Advanced and energy-efficient pressure-boosting

Use our pressure-booster solutions to ensure consistently great pressure control and optimal energy efficiency. The Hydro MPC range is easy to install and is designed for boosting applications that require constant pressure. These solutions are recommended for complex systems in buildings and water utility installations.



Grundfos iGRID

Save energy with demand-driven supply

The typical district heating network is often designed and operated to serve the building with the highest demands, resulting in significant heat losses. With Grundfos iGRID, the heat network can be improved with a demand-driven supply, offering a considerable return on investment and saving energy every day.

Controls and connectivity

Pump controllers from Grundfos are designed to support a wide range of Grundfos products. These pump control systems are all constructed to be easily integrated into larger systems, making them an ideal solution if you are looking to gain complete control and connectivity.



Grundfos CUE

A versatile frequency converter for improved speed control

Our external frequency converters have been designed to improve speed control in a number of our pump solutions. The CUE range works across a variety of applications and areas, from pressurisation of drinking water to chilled water and hot water systems in HVAC.



Grundfos Control MPC

Control up to six pumps in parallel

Pump controller designed for control and monitoring of up to six identical pumps in parallel. Offers optimal adjustment of the performance to the demand by closed-loop control of proportional differential pressure, constant differential pressure, remote differential pressure, flow rate, temperature and temperature difference.



Grundfos CIM/CIU

Our range of communication interfaces

Saving you time and money while delivering peace of mind, Grundfos CIM/CIU communication interfaces are the ideal solution for control of pumps and pump systems. The Communication Interface Module (CIM) and the Communication Interface Unit (CIU) enable data communication via open and interoperable networks.

Services

We offer a wide range of services, including digital services, operation services, optimisation services, repair services and service agreements. Explore a selection below.



Energy Check

An easy-to-understand assessment of pump performance

A basic check that uses data from the nameplates of pumps and motors, or an advanced version that pulls data from your SCADA system or on-site measurements. A customised Energy Check report details the energy consumption of your installed pumps based on variables like nameplate information, pump age, load profile and operating hours. The report presents suggestions for saving energy and energy expenses.



Energy Audit

A comprehensive analysis of pump performance

An Energy Audit is a diagnostic tool developed to identify excessive energy consumption. The audit measures things like flow, energy consumption, pressure, temperature, and incident rates such as pump start/stop, and valve open/close. Based on these metrics, the audit assesses the overall efficiency of your pumps and proposes changes to improve efficiency.



Customised Service Agreements

Improve operational reliability and safety

A Grundfos Customised Service Agreement is an arrangement between you and Grundfos that allows you to stay ahead of maintenance needs at all times. The agreement is fixed in time and can include any of our existing service offerings. From information about your installed base and current situation, we help you define your maintenance needs and draw up the customised agreement.

About Grundfos District Heating

Grundfos is one of the world's leading pump manufacturers and has been renowned for its innovative and reliable solutions since its humble beginnings in 1945.

Today, we produce more than 16 million pump units yearly for a wide range of application areas – from circulators for heating and air conditioning to industrial pumps and solutions for water supply, wastewater and district heating.

Scandinavian district heating is the world's most efficient and reliable heating system, and Grundfos technology is a proud part of that legacy.

Explore our district heating offerings

