

Complete District Energy Solutions

- All the Way from Energy Production to Consumer



We Connect
the District Heating
Network

Optimise Operations
and Reduce
Consumption
and Expenses

Intelligent
Solutions to
Your
Challenges

Complete District Energy Solutions from Frese – All the Way from Energy Production to Consumer

From pre-insulated underground valves in the pipework to intelligent solutions in the cloud. And everything in between. Frese has the products and services to connect your entire district heating network.

“Complete District Energy Solutions” is our concept of products and services that connect parts of your district heating system, allowing you to reduce pump capacity and lower the supply temperature. In this way, it is designed to optimise operations and reduce both consumption and expenditure.

Optimizing your district heating system is more relevant than ever, given the conversion wave, which is a major task. This task requires increased heating capacity and solutions to problems such as cooling and over and underflow in the system.

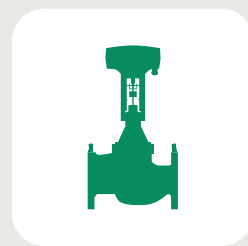
Working with us as your partner, you will benefit from intelligent ways to solve these challenges and a holistic overview of your system.



Optimisation with Dynamic Valves

Valves are a critical part of the district heating system, and we can help with and advise on valves throughout the distribution network. For example, you can optimise the flow with pressure independent control valves (PICV), such as OPTIMA Compact, which gives you optimal control, reduced flow and lower pump pressure.

You can also solve potential issues with heavy users with dynamic flow limiting valves. They can limit the amount of district heating sent to heavy users, ensuring an even distribution to all consumers within an area.



Wells and Covers - Above or Under Ground

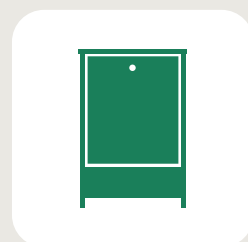
Wells and covers are also an important part of the district heating network, and we can help you find the best and most efficient solutions for your area and consumer mix. You can benefit from a complete solution, including a valve well, cover, free-standing cabinet and IoT metering equipment, and it can be placed virtually anywhere – above ground in green spaces or under ground in roads as an insulated well.



Easy and Quick Installation with District Heating Cabinets

We can also assist with district heating cabinets. The advantage of our enclosures is that they always give the technician easy access to the installations and the consumer can avoid making holes in the plinth and floor.

Available in freestanding, built-in and wall-mounted models, the Frese ARCA Edge series improves working conditions for installers and makes installation and servicing easier and faster.



Monitoring and Operational Optimisation with IoT

With our IoT solutions, you can optimise operations and monitor your network in real time. Among other things, you can monitor and control the bypass valves and gain full insight into temperature and differential pressure. This means you can reduce consumption while maintaining a stable heat supply. It also offers the opportunity to reduce CO₂ emissions and make a green difference.



Hydronic Challenges in District Heating Networks

Are You Facing an Expansion of Your Existing Network or a Low Network Pressure?

- We Offer Customised Solutions for Pump Stations to Meet Growing Needs

When pressure needs to be maintained in the district heating network, a pump station is the obvious choice. It's a flexible solution that ensures that you have the necessary pressure between the district heating plant and the consumer, and it can be customised to your specific requirements. One example could be a pump station built to send district heating to a residential area that is either high up or far out on the district heating network.

If you choose to install a double bypass, the district heating can be sent from the pump station to the residential area – or change direction and send the surplus heat back from the residential area to the station. With this unique solution, you can even bypass the residential area completely.

If you have problems with insufficient return pressure, a pump station can be designed to pump return water back to the district heating plant.

The design of the pump stations can be customised to your needs. They can be delivered as large above-ground stations with easy access for operation and service tasks – or as small compact stations for locations with less space. Underground stations are also possible in situations where there are restrictions on what can be built in an open landscape.

The solutions are always created in close collaboration with the customer, where we identify the various challenges and needs together. It's also crucial that together we can find a solution that meets your requirements, including the choice of pump, frequency converter, control or supplier. This provides the best starting point for creating the optimal pump station for the job.



Do You Have Problems Controlling and Managing Circulation, Pressure and Temperature?

- Optimise Your Energy Efficiency by Lowering Temperatures and Pressures

Frese BYPASS gives you a deeper insight into your district heating network and increased opportunities to optimise your energy efficiency by lowering temperatures and pressures. With Frese BYPASS you can monitor, adjust and control your district heating network remotely, ensuring significant savings on energy bills and the bottom line.

Factual Insights with Accurate Data

The key benefit of Frese BYPASS is that it uses IoT to deliver factual insights and eliminate some of the uncertainties with pressure and temperature calculations.

We have worked closely with a number of Danish district heating companies when developing Frese BYPASS, and there are obvious benefits to using circulation actively and correctly. It is possible to reduce heat loss in the network while ensuring that hot water is always available to consumers. The displayed data also makes it possible to optimise pump operation and avoid unnecessarily high pressure.

With the right solutions and a holistic view of your system, you can achieve significant benefits with relatively few steps. By utilising water more efficiently, you can supply more consumers with the same capacity, thus reducing the need for more boilers or investments in alternative energy sources. In short, it makes good sense in terms of both economics and sustainability to investigate how the district heating system can be improved to solve the conversion task in an intelligent and efficient way.



Hydronic Challenges in Buildings and with Consumers

Do You Have Problems with Fluctuating Pressure and Noise in Your System?

- Save Pump Energy and Enjoy Hassle-Free System Commissioning as Part of Your Purchase

Due to varying differential pressures, heating and cooling systems can often be noisy because the thermostatic control valves cannot fully close. Despite the use of variable speed pumps in larger systems, the differential pressure increases when the system is partially loaded, which increases the noise level and makes the control valves less efficient.

A differential pressure control valve ensures that the differential pressure in the system is always constant, which protects the thermostatic radiator valves and control valves from rising differential pressure and thus ensures good modulating control and less noise. Differential pressure control valves can be used in both residential and industrial heating and cooling systems.

Our PV Compact regulates with precision and maintains a constant differential pressure in the system, regardless of varying pressure and flow. At the same time, the high KV value ensures the lowest pressure loss on the market, saving you pump energy. Its compact design means it can easily be integrated into installations and remote heating units.



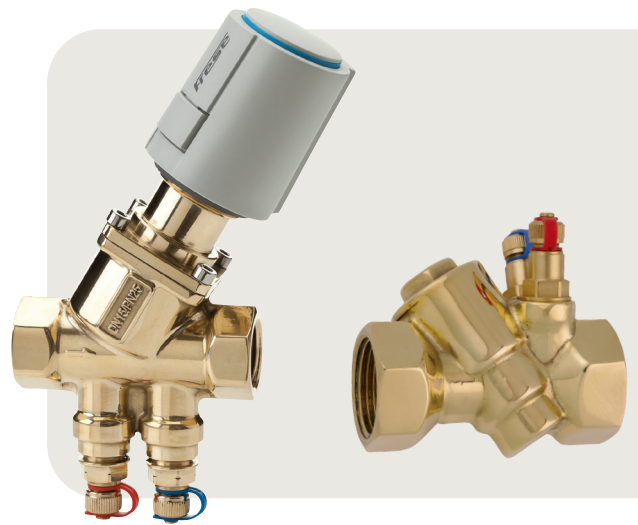
Are You Struggling with Poor Cooling or High Peak Consumption?

- Introducing Dynamic Regulation and Full Modulating Control, Regardless of Preset Flow

You can achieve 100% control over the water flow in a building with our OPTIMA Compact pressure independent control valve. It provides full-authority modulating control, regardless of variations in the system differential pressure. The valve works by automatically adjusting to the preset flow rate under fluctuating pressure conditions while providing full modulating control.

When used correctly, the OPTIMA Compact valve can significantly reduce pump energy consumption and improve the efficiency of other hydronic system components. At the same time, you can ensure optimal comfort for end users due to the valve's very precise temperature control.

Furthermore, the ALPHA series of flow limiting dynamic balancing valves are designed for accurate and efficient flow distribution in heating and cooling systems in a wide range of applications. The ALPHA valve ensures that the flow is limited to the design flow, regardless of varying pressure conditions.



Save Time, Energy and Costs with Our Patented Valve Technology

Frese's pressure independent technology is an innovative, energy-saving alternative to traditional hydronic balancing and control. It ensures effective flow and temperature control.

The pressure independent control valves ensure that the design flow conditions are met at all times – regardless of pressure fluctuations in the system.

The technology also eliminates overflow, resulting in significant savings on pump energy.

Dynamic valves have several advantages over traditional, static balancing valves. They help simplify system designs by eliminating the need for additional balancing valves in the system. They are also very flexible if your system needs to be modified or expanded at a later date.

Because pressure independent control valves automatically adapt to any changes in the rest of the system, they are much easier to commission as they do not require proportional balancing.



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