

**THERMOTECH**  
Underfloor heating



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*We simplify your everyday life*



## WELCOME TO THE WORLD OF THERMOTECH

Thermotech Scandinavia AB was established in the beginning of the 90's when the major plumbing manufacturers began taking an interest in underfloor heating. The idea was to develop a complete waterborne underfloor heating system as an alternative to on-site solutions with standard components, our ThermoSystem™.

To develop, design and deliver complete customized system solutions for underfloor heating still constitute a big part of our identity. Since 2010 we also offer a complete system for water distribution, our MultiSystem™.

We simplify your everyday life by making it easy to order and install our products as well as support with a relevant and high level of service. Our knowledgeable specialists are located all over the country where they are best needed, close to our customers.

We distribute to professional customers (B2B) who benefit from our knowledge, our high level of service and our customized system solutions. We distribute without intermediaries to make it easier for you as a customer. Through close contact with you, we can provide both personal and knowledgeable service.

When working closely with you in your daily work, we can also meet your expressed and unexpressed needs. We like to question old solutions and constantly further develop our products and services.

In our daily work, we also contribute to reducing energy use through a high level of knowledge about how to design and install energy-efficient heating systems.

*We simplify our customers everyday life.*

# WATERBORNE UNDERFLOOR HEATING

## Effective use of energy

The first thing that comes to mind when installing underfloor heating is comfort. But, with the right conditions, underfloor heating also means effective use of energy.

Underfloor heating is a low-temperature system that is an excellent fit with energyefficient sources of heat, such as pellet boilers, heat pumps and solar heating systems, or a combination of these.

### SPREADS HEAT WHERE IT'S NEEDED

Underfloor heating is perceived as pleasant because the heat is radiated at low temperature over a large surface (the floor). The portion of heat spread via radiation is high and the radiation transports the heat directly to the surrounding areas and it is evenly distributed in the rooms.

From conventional radiators, the heat is instead spread largely via the movement of air. The warm air is transported upwards to just under the ceiling, where it's not needed, and the cold air remains above the floor.

### KEEP A COOL HEAD

We humans prefer cool air at head-level and warmer air at our feet. Underfloor heating provides the ideal distribution of heat.

Another advantage with underfloor heating is that less dust is released because the air moves less when compared to radiators. You can eliminate those dust-collecting radiators on the wall, which in turn contributes to making your home easier to furnish.





A heat pump can consume 30% less energy when the water temperature is reduced from 55°C (with radiators) to 35°C (with underfloor heating).

## INSTALLING UNDERFLOOR HEATING

A few tips before you start

### INVESTIGATE THE CONDITIONS

Before drawing an underfloor heating system that fits your home in particular, it is important to find out about the pre-existing conditions. We'll be happy to help you, and what we need to know is:

- When your home was built
- Which type of insulation you have
- Whether there is ventilation and in such case, which type
- What kind of floor will be laid
- Heat source
- Whether there are other heating systems

### LAY THIN FLOORS AND INSULATE PROPERLY

Strive for floor constructions that are as thin as possible. The thinner the floor, the lower the temperature required to heat the floor surface. The insulation beneath the underfloor heating is very important for keeping the heat from disappearing downwards and in the worst case causing problems with moist.

### SET THE RIGHT DISTANCE BETWEEN THE PIPES

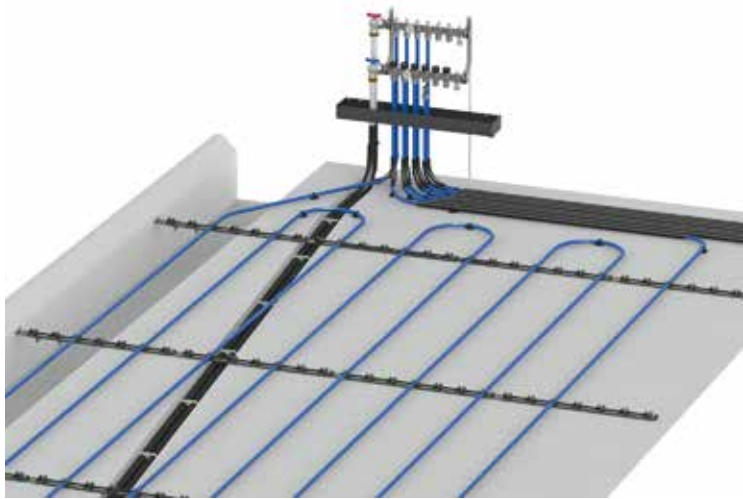
With the right distances (c/c dimensions) between the pipes, you gain a more even temperature throughout the underfloor heating system. This provides lower operating costs and improved function.

### BALANCE THE FLOW

For the right amount of water to go to the right rooms, the flow must be balanced. In this way, you obtain a good distribution of heat in your home. Water always takes the shortest route and this means the shortest loop (the room that is closest) receives the most water unless the flow is balanced.

### SET THE WATER TEMPERATURE

A properly functioning room control system must be sensitive and quickly adjust the heat to the amount of sunshine for example, but not increase output during temporary airing. The correct temperature of the water is fundamental for a smoothly functioning system.



Waterborne underfloor heating is our expertise. With our Thermo-System™ we offer a safe and efficient system solution regardless of size, foundation and heat source, both for new construction and renovation. Our products are delivered fully assembled for easy installation, but we can of course tailor both products and deliveries exactly according to your wishes when necessary.

We help you with the best overall solution right from the start. We make drawings and calculations for your project so that you get a safe and well-functioning system that is easy to install.

### INSTALLATION SYSTEMS

Our installation systems cover all needs, whether you will renovate or build something new. We have systems for concrete slab, floating installation on existing floors and bearing wooden systems that replace the subfloor. Pipes are available in sizes from 8 - 32 mm. Which system that is right for you depends on the foundation, the size of the area and the available construction height.

### MANIFOLDS AND MIXING UNITS

Our manifolds and mixing units are fully assembled upon delivery, stylishly designed in stainless steel and easy to install. The manifold's function is to connect all loops and distribute the hot water to the different rooms. We have manifolds from 2-12 loops.

The mixing unit is needed when underfloor heating is to be combined with ordinary radiators. Our mixing units have energy-efficient A-rated circulation pumps on cover surfaces from 12 - 1500 m<sup>2</sup>.



### ROOM CONTROL UNITS

The room thermostat controls the heat supply to the floor by opening and closing the actuator of the underfloor heating manifold. It is rare that you need to regulate the heat once you have installed a floor heating system from Thermotech. But would you need to do it, you use a stylish thermostat with timeless design that fits in all environments.

We have a complete range of wired and wireless room control units with the latest technology for optimization of the operation and energy efficiency. The settings are managed by an app in your mobile phone.

### THERMOTECH PREFAB

Order your underfloor heating cabinets fully assembled. We deliver both flexible standard solutions and customized special solutions with short lead times.

If you let us do the installation work for you in our factory, the plumbing work on the construction site will be more efficient and the installation time will be significantly shorter. We deliver the pre-assembled products in clearly marked packages directly to the construction site when you need them. You don't have to pick up and store the products yourself or search among loose parts on the construction site.

With our integrated warehouse and manufacturing, we can pre-fabricate most things in both small and large series so that it becomes cost-effective for you.



# THE HISTORY OF UNDERFLOOR HEATING

Underfloor heating is an old invention. Its history goes back 6000 years. And it's quite possible that it was the Stone Age people living in Sweden who discovered underfloor heating.

In Voullerim in northern Sweden, remains have been found from the Stone Age that indicate a primitive form of underfloor heating. At that time, hot gases from hearths were transported into the ground. The ground was heated and in this way Stone Age families could keep a little warmer at night. A primitive but an exceedingly brilliant idea.

During the 1920s, the British and French developed different systems for underfloor heating that are reminiscent of today's water-borne underfloor heating systems.

In Sweden, underfloor heating made its breakthrough in the 1980s. Underfloor heating is now a well-established system for heat distribution with many technical and economic advantages.

