

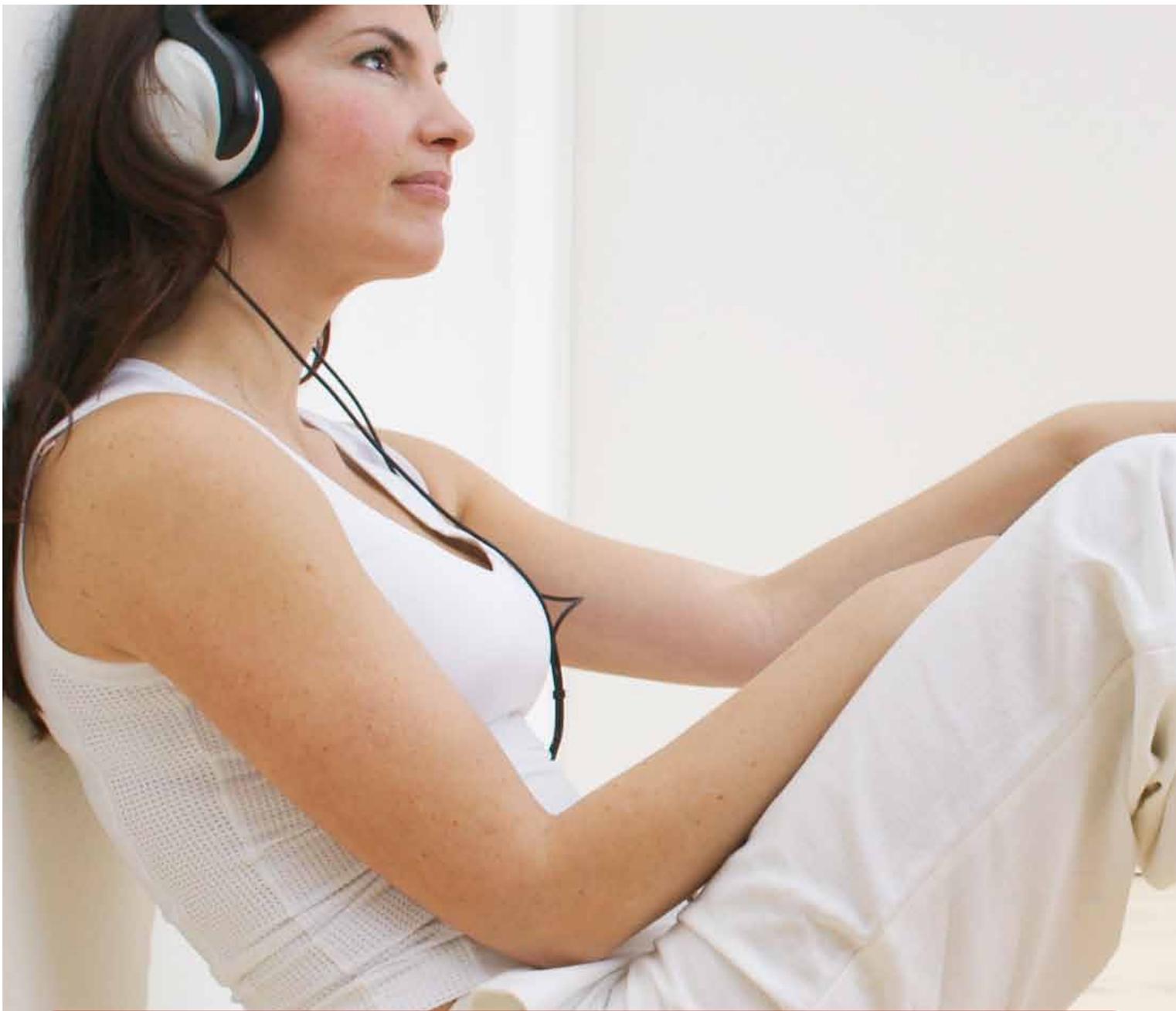
# THERMOTECH

Underfloor heating



*We make it easy for you*





## WELCOME TO THERMOTECH'S WORLD

Thermotech began when the major plumbing equipment manufacturers began taking an interest in underfloor heating. The idea was to develop complete waterborne underfloor heating systems as alternatives to on-site solutions with standard components.

Developing, marketing and engineering complete customised system solutions for underfloor heating still constitute a big part of our identity. But today we can even offer systems for water distribution and solar heating.

Our specialists are located all over the country and the knowledge distributed where it is best needed, close to our customers.

We distribute without intermediaries, both for our own sake and our customers. With close contact between system designers and customers, it's both easier and more enjoyable to provide personal service.

Moreover, it facilitates development of safe and heat-efficient underfloor heating systems. We have a history and culture with a strong focus on innovation, where industrial design is an important tool in our development work. In this way we continually create advantages for our customers.

*We make it easier. We make it more attractive. We make it exceptional.*

# WATERBORNE UNDERFLOOR HEATING

## Effective use of energy

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

Underfloor heating is a low-temperature system that is an excellent fit with energy-efficient 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).

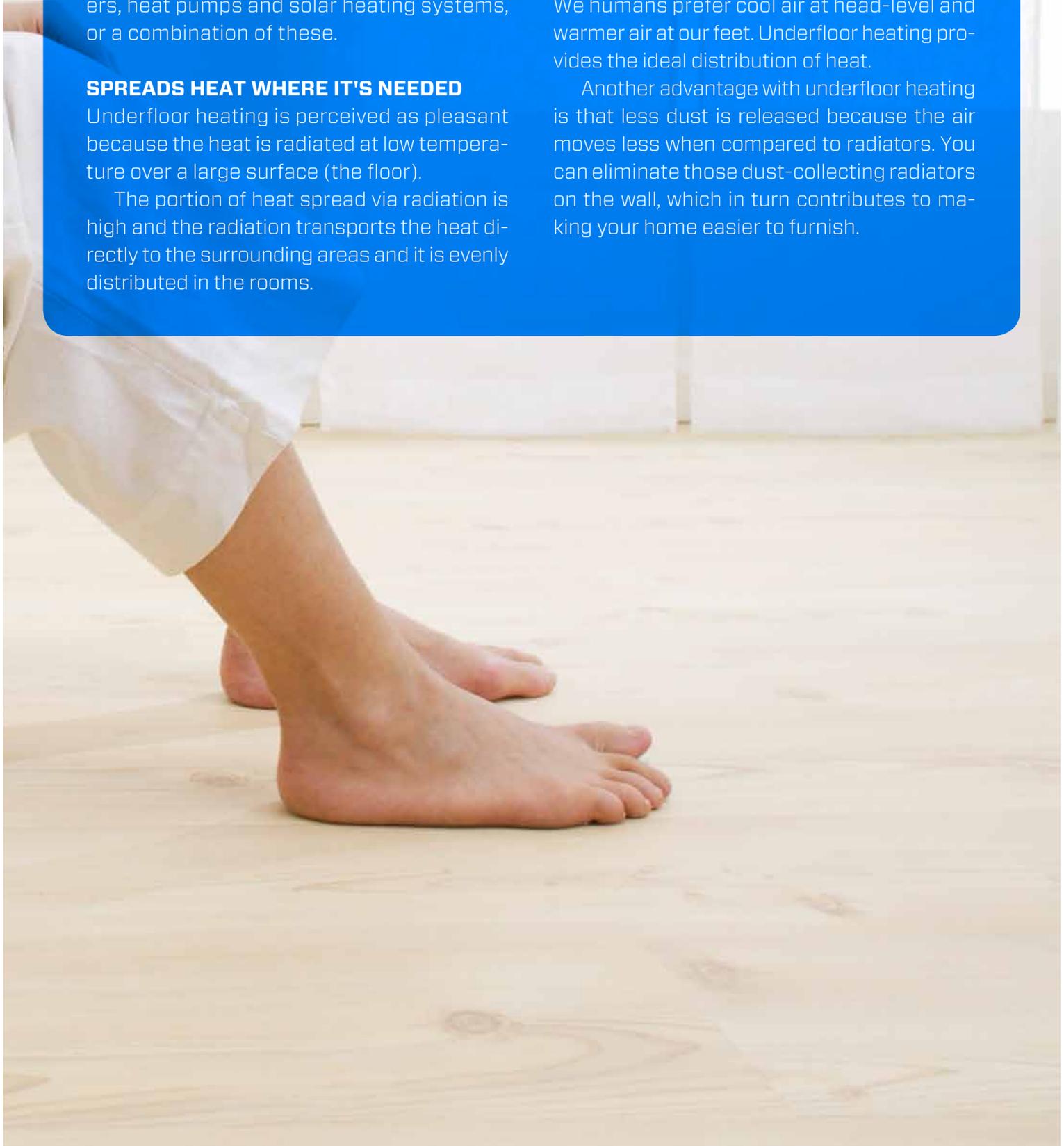
The portion of heat spread via radiation is high and the radiation transports the heat directly to the surrounding areas and it is evenly distributed in the rooms.

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).

## THERMOTECH UNDERFLOOR HEATING

### A few tips before installation

#### INVESTIGATE THE CONDITIONS

Before configuring 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 lend a hand, 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.

#### SET THE RIGHT DISTANCE BETWEEN THE PIPES

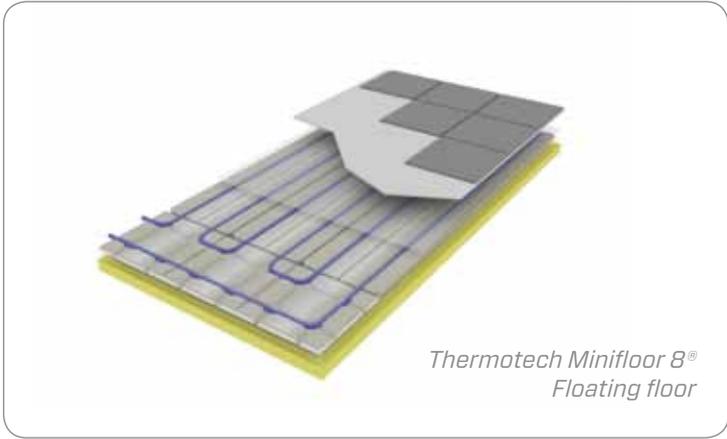
With the right distances (c/c dimensions) between the pipes, you gain a more even temperature throughout the underfloor heating system. This provides lower operating costs and improved function.

#### 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 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.



*Thermotech Minifloor 8®  
Floating floor*

We engineer and deliver system solutions that are customised to each home or building. Our products are completely assembled upon delivery, feature a clean design and are easy to install. Read more at [www.thermotech.eu](http://www.thermotech.eu).

## INSTALLATION PRINCIPLES

Our installation principles cover all needs, regardless if you will be remodelling or whether it is a matter of new construction.

We have systems for embedment (concrete slab), floating installation on existing floors and bearing wooden systems that replace the subfloor. Pipes are available in sizes 8 (Minifloor 8®), 12, 17 or 20 mm. Which system that is right for you depends on the subfloor, the size of the area and the available construction height.



## MANIFOLDS AND MIXING UNITS

Our manifolds and mixing units are fully assembled upon delivery, with a clean design in stainless steel, and are easy to install. The manifold's function is to connect together all the loops and distribute the warm water to the various rooms. We have manifolds for 2-12 loops.

The mixing unit is needed when underfloor heating will be combined with radiators. Our mixing units are energy-efficient, Class A circulation pumps. We have mixing units for surfaces from 60 to 1500 m<sup>2</sup>.

## ROOM CONTROL UNITS

The thermostat controls the supply of heat to the floor by opening and closing the actuators on the underfloor heating manifold.

You seldom need to adjust the heat once you've installed an underfloor heating system from Thermotech. But if you do need to make adjustments, use our nicely designed thermostat with its clean classic style that suits all environments. We have a complete assortment of wired and wireless room control units with the latest technology for optimising operation with consideration to historical data.



## LARGE PREMISES

We have a unique assortment of group manifolds, large mixing units and feed pipes for larger installations. We help you to find an effective, reliable and economic system solution.

## THERMOTECH GEO® SYSTEM

If you think that there are better things to do than shovel snow, we recommend our system for melting ice and snow - Thermotech GEO®System. The system has many areas of use, such as garage driveways, roads, sports facilities, and loading and unloading areas.

It can also be advantageously used for heating conservatories. The season is lengthened at the same time as you lower both heating costs and conserve environmental resources.



# 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.





**Thermotech**

[info@thermotech.eu](mailto:info@thermotech.eu) | [www.thermotech.eu](http://www.thermotech.eu)