

# Welcome home!

Hot water comfort for all the family,  
no matter the size.

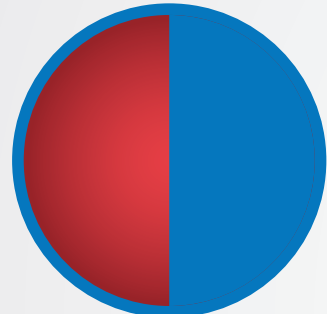
Allow our leading innovative renewable technology to take the stress out of those morning showers letting you easily cope with daily hot water demands that a family on the go loves to enjoy.

How do we make it? Read on...



## A nice hot shower, a long warm bath or a long soak in the Jacuzzi – what will it be today?

These days it is common for homes to enjoy a second bathroom and the comforts of a bath tub or Jacuzzi. When up to 50 % of the water consumed by the average household is sanitary hot water you want to make sure that the whole family can enjoy these common comforts at the same time, all the time. With Thermia heat pumps and our latest innovative technology you can rest assured that your hot water demands are constantly being met whether you are in the bath, shower or hot tub, you'll have more than enough hot water at a temperature that suits you.



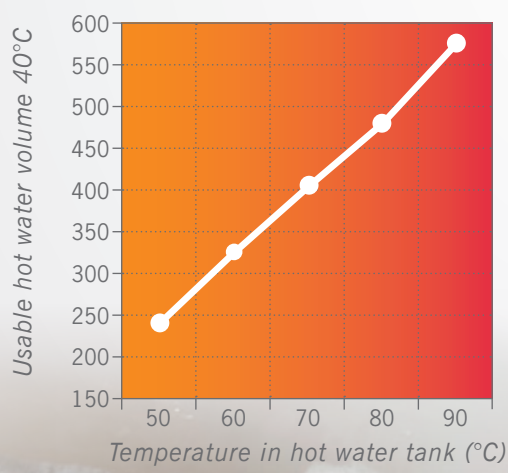
**Blue** The total water consumption in the household

**Red** Up to 50 % of water consumption in the household is sanitary hot water

## What is Hot Gas Water heater technology?

A standard heat pump sends all heated water towards either the heating system or towards the water heater and is limited to do just that and nothing else, 100% in one direction at a time. With Hot Gas Water heater technology (aka HGW), Thermia has developed a unique patent pending method for producing hot water. With this new technology we have solved a seemingly impossible equation: higher annual efficiency in combination with hot water production at higher temperatures and increased volumes. At the same time as water is heated for distribution through the house's heating system, hot water is produced at very high temperature through an extra heat exchanger (aka. de-superheater). This means that during the part of the year when the house is heated, you get lots of hot water at a very low cost.

Availability of usable hot water (40°C) in 180 liters hot water tank with HGW technology

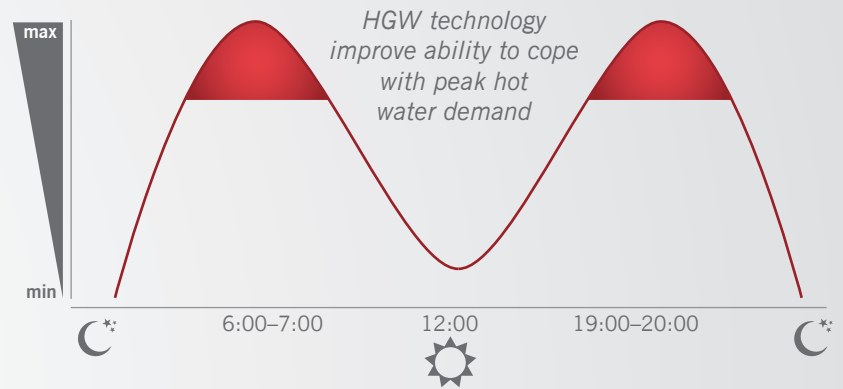


# How can HGW technology improve my families' bathroom comforts?

With a Thermia HGW technology heat pump you can take more and longer showers. On average a shower consumes about 35–40 liters of water with a temperature of 40 C. In the Thermia G3 and Inverter models you have 419 liters\* available on tap, giving you the freedom to take up to 9 showers at once. Handy if you have a large family or if the relatives are all visiting at once. A similar comparison applies to the bathtub where the average hot water consumption is 150 liters. With our Thermia heat pump you can take a bath twice more compared with other heat pumps equipped with traditional hot water tanks. Our state of the art technology provides enough domestic hot water for a whole family! You can be sure that when demand is at its highest there will be more than enough hot water to meet your needs.



Domestic hot water Consumption

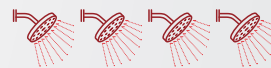


Thermia Diplomat G3 & Thermia Inverter with a 180-liter hot water tank supported by HGW and TWS technology.



Other brand

A typical heat pump with a 200-liter traditional hot water tank.



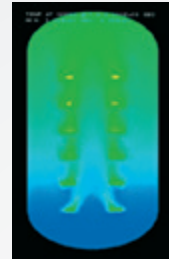
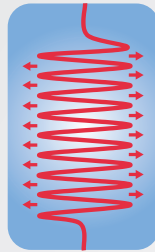
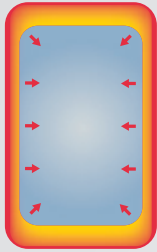
## Thermia heat pump with HGW technology is a true family friend in bathroom comfort.

- stress free use of your hot tub and power shower with a constant supply of hot water
- lower energy bills – hot water production with hot gas technology is nearly 3 times more efficient than common alternatives, the Thermia Optimum G3 can produce hot water with an efficiency ratio up to 1:5 where solutions offered by other producers perform at 1:2
- higher volume of hot water – the Thermia Optimum G3 or Thermia Inverter, compared with other standard heat pumps allows a 180-liter tank to produce up to 419 liters\* of hot water at 40°C
- increased temperature of hot water – over 90°C in the tank, easy and a regular pasteurization cycle (against Legionella bacteria)
- up to 20 percent higher annual efficiency in hot water production

With the HGW-technology the amount of accessible hot water can be increased by up to 75%, at the same time energy costs are considerably lower than with traditional technology.

# Thermia heat pumps – an all-in-one solution for exceptional hot water production

Tap Water Stratification (aka. TWS) technology provides more effective heat transfer and more efficient layering of the water in the hot water tank. The results of a built-in coil are impressive. TWS ensures a plentiful supply of hot water, quickly and at low operating cost, which means that a heat pump with TWS also increases your annual efficiency. Additionally, the state of the art water tank is finished in high grade stainless steel without anode.



**A traditional water heater** provides slow heat transfer. In double wall water heaters from other manufacturers heat is transferred via wall space and is less efficient. This technology requires twice as long to heat a heater that is empty compared with TWS technology.

**A TWS water heater** uses a technique where the hot water from the heat pump is led through a coil in the water tank to be heated. The water in the heater is also stratified so that some of the water reaches the correct temperature more quickly. TWS provides more efficient heat transfer and more warm water.

**The thermal imaging camera shows the areas of temperature stratification:** in the photograph, the hot water is represented by the green coloring and cool water by the blue.

**When it comes to hot water production, heat pumps equipped with HGW and TWS are one of the best on the market.**



## Thermia Diplomat Inverter

The newly developed inverter controlled compressor is a part of the secret behind the Diplomat Inverter, ground source heat pump with the highest performance. The inverter-controlled compressor adjusts the heating output constantly according to the current heat demand, it means that the heat pump can supply 100 % of your energy requirements. You never use more energy than is needed, and this of course reduces your energy bills further. The built-in HGW and TWS technology means that hot water is produced faster and at higher temperatures than those methods used traditionally compared with TWS technology.

## Thermia Diplomat G3

Thermia Diplomat Optimum G3 is a ground source heat pump that offers you superior annual efficiency thanks to its unique technical solutions. The Optimum technology ensures that the heat pump always works under ideal conditions, which further reduces the overall energy consumption. The built-in HGW and TWS technology means that hot water is produced faster and at higher temperatures than those methods used traditionally. With G3 you can customize a one system solution that meets all your requirements, including heating, cooling, pool heating and in combination with additional heat sources.

\*applies to Thermia Diplomat G3 with 180 liters' hot water tank

