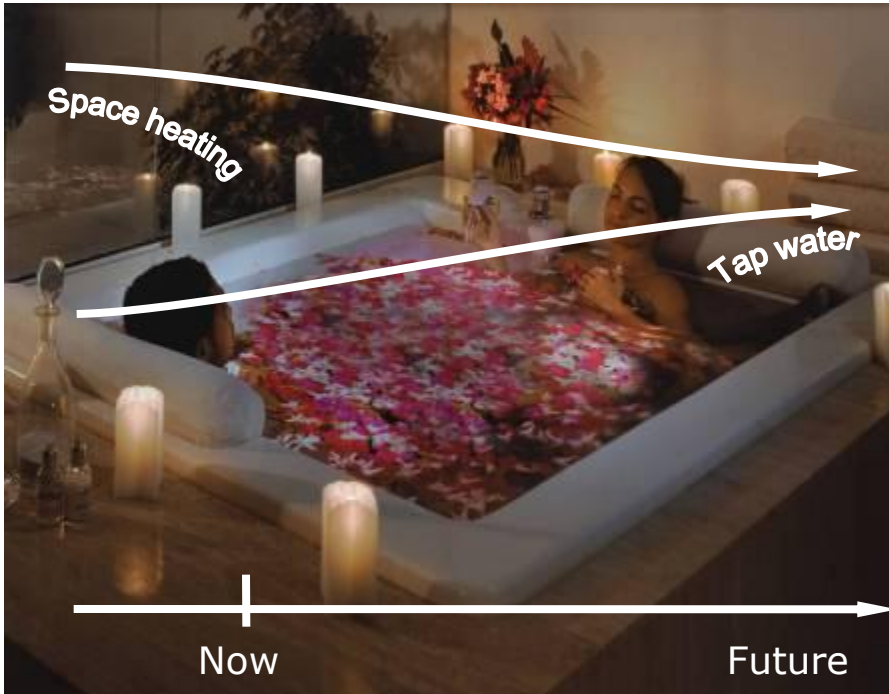


Hot water production



Approximately 20 percent of a heat pumps energy output is used to produce hot water. As hot water production makes up for an even greater proportion of the house's energy requirement it is becoming more and more important that the hot water is produced as efficiently as possible. At the same time, fast recharging of hot water is important to ensure hot water comfort.

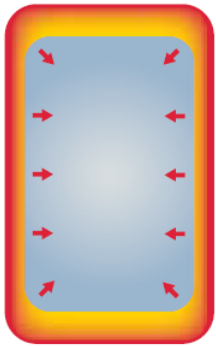
One of the main requirements in front of us:

Lots of hot water, produced quickly, at the lowest possible cost.

Hot water production



Traditional technology



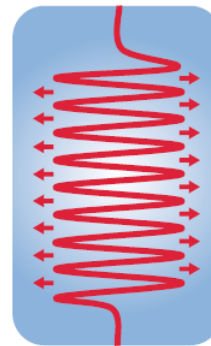
In a traditional water heater for heat pumps the heater is surrounded by the hot water from the heat pump. This gives poor and slow heat transfer.



After peak consumption that has drained the hot water tank of hot water, it takes 50 minutes*, using traditional methods, to produce a full tank of hot water again.

*The time is calculated when heating from 40°C.

TWS technology - used by Thermia



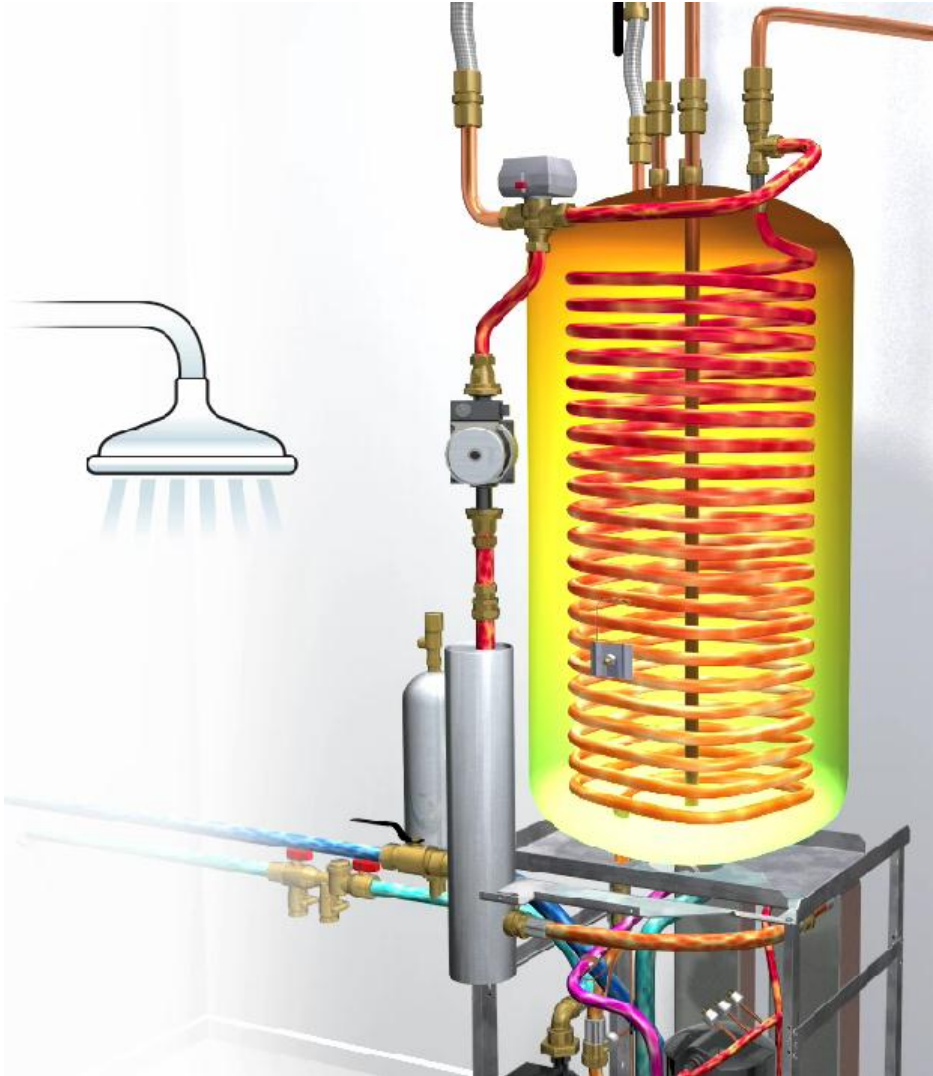
In a TWS hot water tank, the hot water is led from the heat pump in a coil through the water that is to be heated. It provides more effective heat transfer and more hot water.



After peak consumption that has drained the hot water tank of hot water, it takes just 21 minutes* to produce a full tank of hot water again.

*The time is calculated when heating from 40°C.

TWS technology



TWS hot water tanks are specially designed for heat pumps. The technology layers the hot water so that the heat can be used in the best way.

The amount of energy used to create hot water by TWS could only create luke-warm water in a conventional hot water tank.

15% more hot water
150% quicker recharge

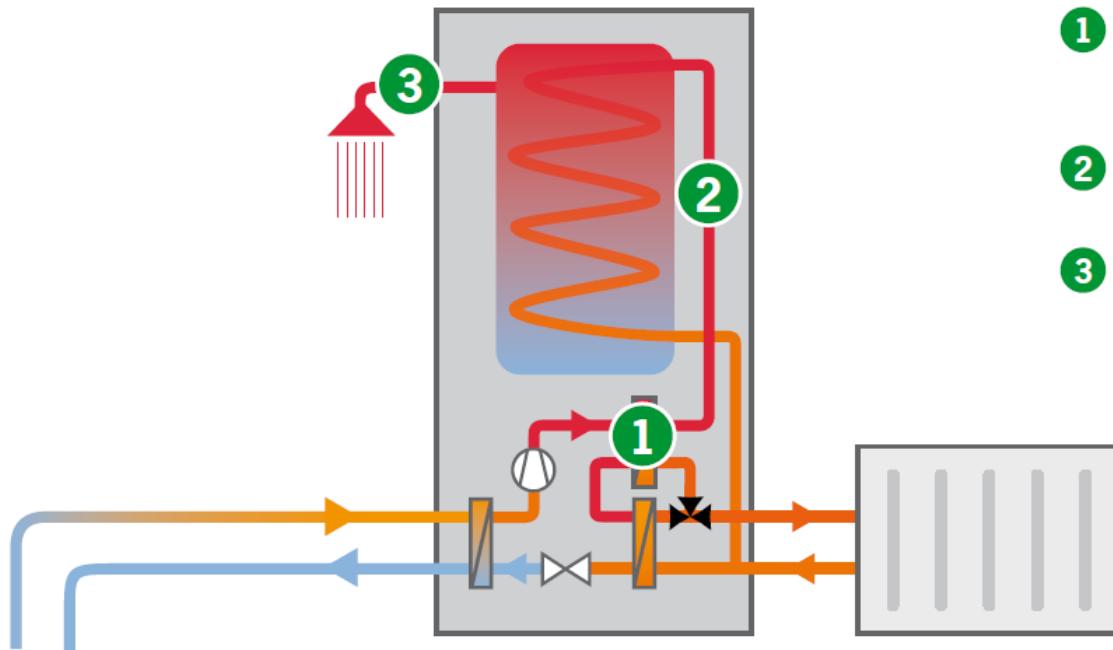


52 min



21 min

HGW technology – Hot Gas Water



- 1 A small proportion of the heated water that is routed out into the house's heating system, passes the extra de-superheater.
- 2 It is then heated up further to between 50–90°C before going into the water heater.
- 3 The result is that, without additional cost, you get extra and even hotter water during the months of the year that the house is heated.



HGW technology is only used
in Thermia Optimum G2

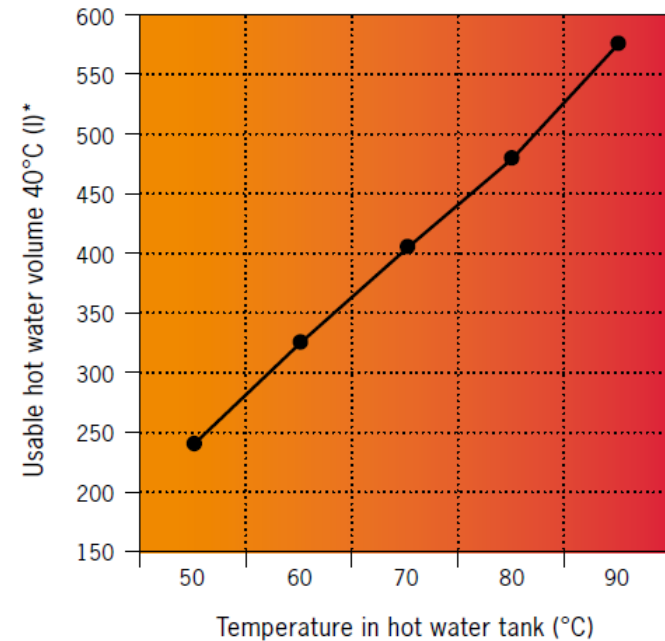
Boosting annual efficiency with HGW



HGW technology is developed by Thermia which is a unique method for producing hot water where we succeeded in solving a seemingly impossible combination; higher annual efficiency and hot water production with higher temperatures and increased volume.

The result: During the months when the house is being heated, the Thermia Optimum G2 produces much more hot water than any other heat pump on the market.

At this time, when the house needs heating, the COP for hot water can be as high as 5. This gives us the 10 % higher SPF.



HGW technology – real facts!



As the saying goes, one picture says more than a thousand words!
By using Thermia Online, we are able to see what it really means using HGW technology.



Thermia Online

Användare:
Installation:

Inställningar | Anläggning | Larmhantering | Administrera | Support | Logga ut

Placering / Grafisk översikt
P Online
2008-03-22 15:54:34
Ansluter \

Andra Värmekurva	Andra Driftläge
35 °C	1
Värmekurva Max	Övertemperatur
58 °C	-2 °C
Värmekurva Min	Andra Onskad Rumstemp
10 °C	21 °C
Kurva 5	RUM
1 °C	20 °C
Kurva 0	Onskad framledning
1 °C	41 °C
Kurva -5	Integral
0 °C	128 %/min
Kurva 2 (22-55) / Pool (4-35)	Framledning
40 °C	37 °C
Temperatur Kurva 2 / Pool	Returledning
0 °C	37 °C
Drifttid värmepump	Brine UT
4762 h	1 °C
Drifttid tillåtsvärme 3kW	Brine IN
36 h	2 °C
Drifttid tillåtsvärme 6kW	Värmewatten
62 h	54 °C
Drifttid varmvatten	Värmestopp
605 h	17 °C

A 3D architectural rendering of a two-story house with a red roof and yellow-green siding. A cutaway view shows the interior, including a living room with a sofa and a staircase. In the basement, a white HGW unit is installed near a window.

Keep in mind: we are not getting hot water for free by using HGW technique, but we are producing it with the highest possible COP!



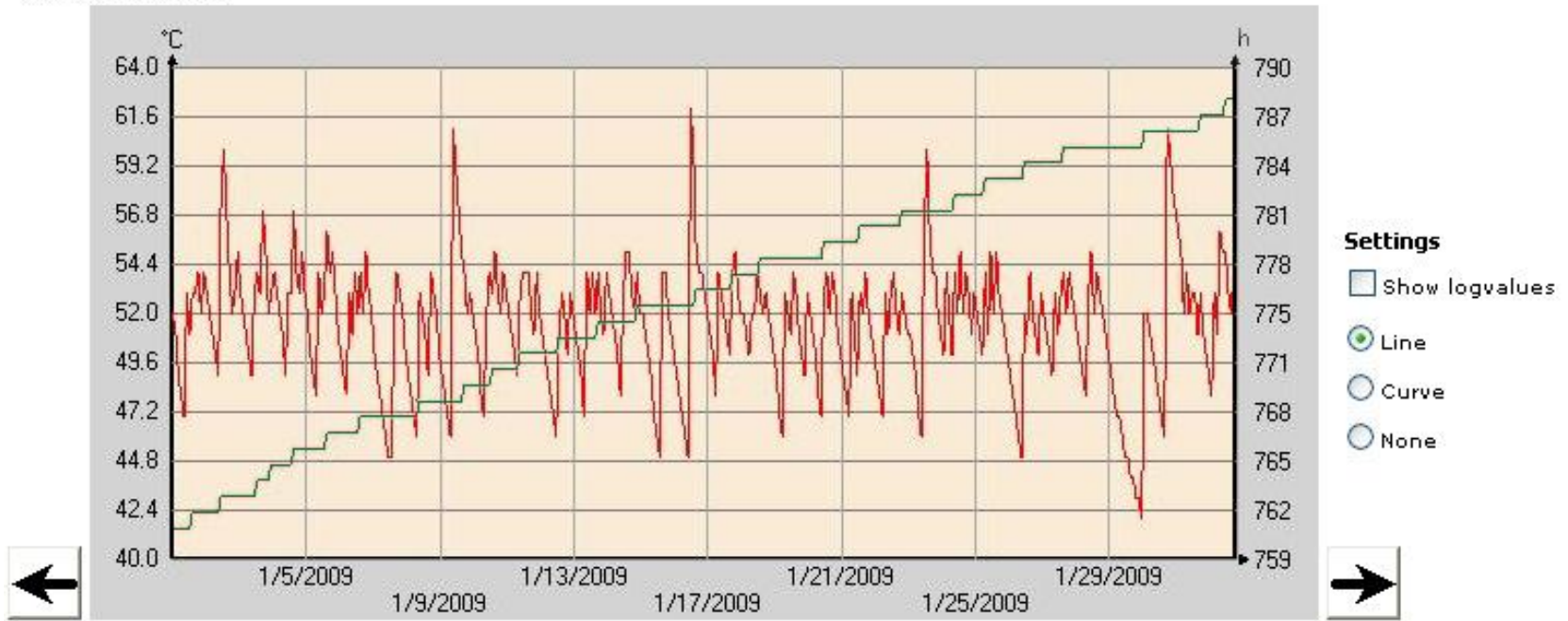
HGW technology – real facts!

RADIATOR SYSTEM without HGW function
Measured period: 5th January 2009 – 29th January 2009
Operating time hot water: 27h

Installation: **Cajsa Skarfeldt TWS 12 Arvika**

[Show terminals](#) | [Selected unit](#) | [Alarm handling](#) | [Admin](#) | [Sys Admin](#) | [Support](#) | [Logout](#)

Show logged data



Timespan: 1 month

Start time 1/1/2009

Choose start date

Zoom out

End time: 2/2/2009

Active channel: Hot water

Active channel: Operating time HW

Return graphic overview

Hot water production



HGW technology – real facts!

RADIATOR SYSTEM with HGW

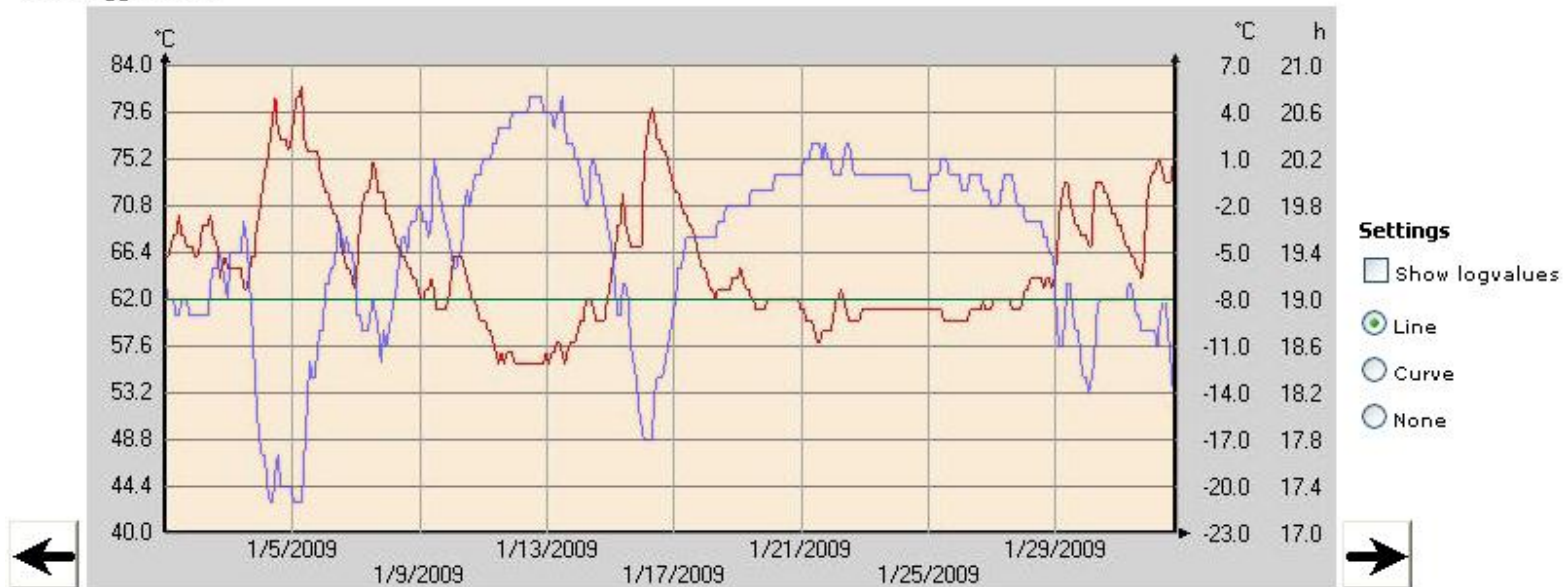
Measured period: 5th January 2009 – 29th January 2009

Operating time hot water: 0h

Installation: **Suzanne Olow Thermia G2 8 Eklunds VVS**

[Show terminals](#) | [Selected unit](#) | [Alarm handling](#) | [Admin](#) | [Sys Admin](#) | [Support](#) | [Logout](#)

Show logged data



Timespan: 1 month

Start time: 1/1/2009

Choose start date

Zoom out

End time: 2/2/2009

Active channel: Hot water

Active channel: Outdoor

Active channel: Operating time HW (19 h)

Adjust heat curve
40 °C

Return graphic overview

Hot water production



HGW technology – real facts!

UNDERFLOOR SYSTEM with HGW

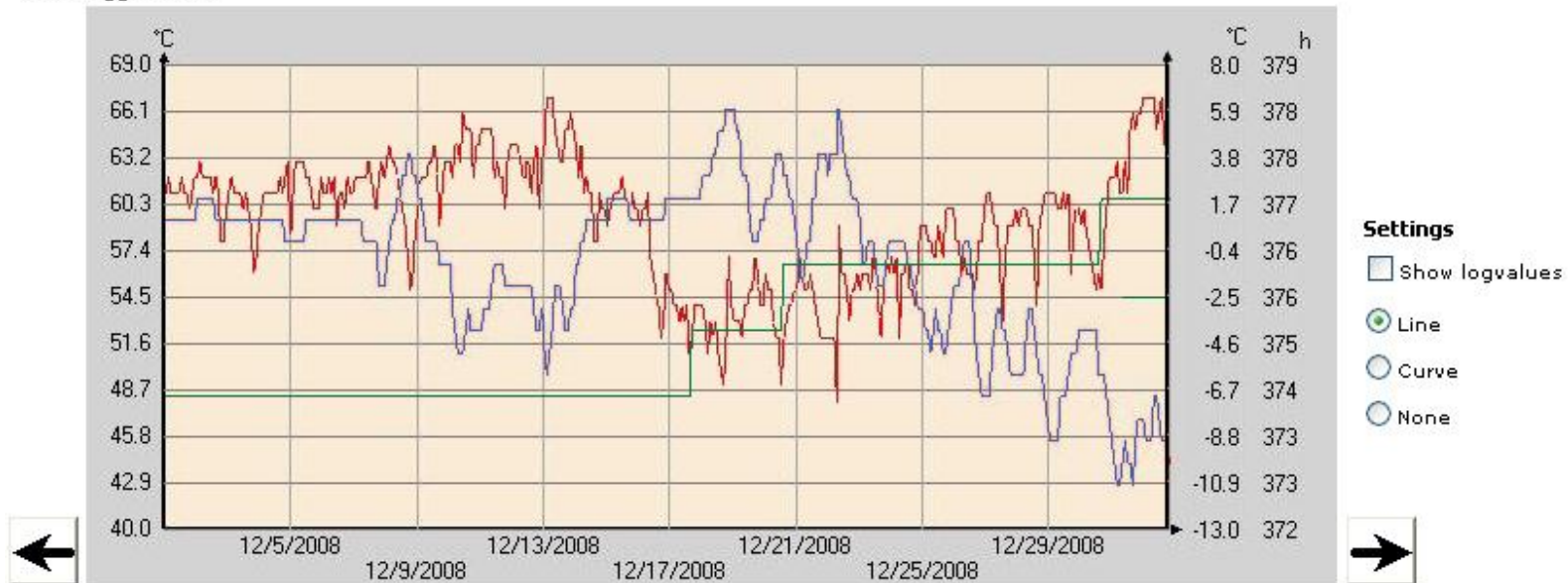
Measured period: 5th December 2008 – 29 December 2008

Operating time hot water: 3h

Installation: **Dennis Nilsson G2 8 Arvika**

[Show terminals](#) | [Selected unit](#) | [Alarm handling](#) | [Admin](#) | [Sys Admin](#) | [Support](#) | [Logout](#)

Show logged data



Timespan: 1 month

Start time: 12/1/2008

[Choose start date](#)

[Zoom out](#)

End time: 1/2/2009

Active channel: Hot water

Active channel: Outdoor

Active channel: Operating time HW

Adjust heat curve
32 °C

[Return graphic overview](#)

Hot water production