Centralised? Decentralised? It matters!

Central hot water supply with high energy losses

Shower and bathroom



40°F

work days (example)

Useful hot water energy [Wh/d]:

Technical systems losses [Wh/d]

Total hot water requirements [Wh/d]: 7,177

Circulation losses [Wh/d]:

Distribution losses [Wh/d]

Start-up losses [Wh/d]:

Storage losses [Wh/d]



1-family home 3-family home 12-family home

34.000

12.000

180

730

4.000

10.500

61,410

8 500

3.000

50

160

2.100

2.200

16.010



 Hot water line •••• Cold water line

Long water lines

- large water tanks
- excessively high water temperature
- energy and water waste

Coupling the hot water supply to the central heating sys-tem is still very common. Water is heated in a central tank and then transported to the various points-of-use through an additional pipe system. Due to hygienic requirements, the water must be preheated to at least 140 °F when it must travel though long pipes. The temperature is then reduced by mixing in cold water at the tap. This may make sense in old buildings with a high heating demand but for renovations and new buildings, which use the lower tem-perature range, providing, storing and transporting of hot water at 140 °F means high energy losses.

Washbasin

The "Energy Industry Research Association" divides energy losses in centralised hot water preparation into circulation, distribution, start-up and storage losses. In a one-family home, these losses add up to at least 40 % of the entire energy requirements. Add to that the higher investment costs compared to the decentralised solution.



Energy guantities for decentralised hot water preparation on work days (example).

	1-family home	3-family home	12-family home
Useful hot water energy [Wh/d]:	4,280	8,500	34,000
Distribution losses [Wh/d]:	20	45	170
Start-up losses [Wh/d]:	35	70	380
Technical systems losses [Wh/d]:	70	210	580
Total hot water requirements [Wh/d]:	4,405	8,825	35,130
Savings vs. centralised hot water preparation [Wh/d]:	2,772	7,185	26,280

Source: Final report of the Energy Industry Research Association mbH in collaboration with TU Munich

Energy quantities for centralised hot water preparation with intelligent circulation on

4 280

570

27

110

1.300

890

Source: Final report of the Energy Industry Research Association mbH in collaboration with TU Munich

Decentralised hot water supply is energy-efficient











•••• Cold water line Short water lines

correct water amount

Hot water line

- correct water temeperature
- = energy-efficient, based on demand, modern

In decentralised systems, the hot water supply is separated from the heating system. Electric instant water heaters meet the specific requirements for each application if installed directly at the various points-ofuse. The hot water is available without any lead times. Only the required amount of water is heated. Additional pipe systems are not necessary. There is also no need for circulation pumps and hot water tanks, which saves installation and operation costs. The small units allow for a "hidden" installation in wall nooks or behind panelling. The central heating system can now be adjusted precisely to the requirements of the building and be turned off completely during the summer.

Circulation and storage losses are eliminated, since water is not preheated and stored in large quantities. The distribution, start-up and systems losses only amount to 3 % of the energy requirements. According to the latest findings of the "Energy Industry Research Association", decentral-ised hot water supply with electric instant water heaters is a highly efficient energy-saving system.

That's how you make friends!

CLEAN

More hygiene

Electric instant water heat

ers heat up the cold water to the perfect temperature

within seconds, directly at

the tap, as it flows through

the unit. The heated water

is used immediately and un

used water is avoided in the

water line systems. That's

why testing for Legionella

bacteria becomes unnec

essary. This is what makes

decentralised water heating

more hygienic and efficient.



Instantly hot water

As soon as you open the tap, the water flows with your de sired temperature. The water is only heated in the amount and for the time you actually need it. Due to short water lines and modern technology.



Saving energy

No more long water lines and circulation losses because the units are installed directly at the point of use. The water is no longer preheated and stored in large amounts. That saves energy. And it saves investment costs: Long waterlines, circulation pumps and hot water tanks are no longer necessary.



On many units, each user can set his or her individual temperature preference precisely directly at the unit.

That's pretty cool, right? No wasted water. Hot water is immediately available with electric instant water heaters. It is not necessary to run water for a long time to obtain the desired temperature. In centralised systems with 15 metres long water lines, for example, about 1.5 Gals of water are wasted.

thermoflow



Protecting the environment

The process from design to the finished product is very sustainable and is con tinuously put to the test. We work according to the environmental management standard ISO 14001. Users conserve water and energy with electric instant water heaters.



CO_2 down

The amount of renewable energy in the electricity mix is growing as CO_2 emmissions which are generated by burning fossil fuels are reduced. Compared to cen tralised gas or oil heating systems, decentralised hot water supply can lower CO₂ emission up to 35 %.