



FREQUENTLY ASKED QUESTIONS

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DRAIN WATER HEAT RECOVERY

What is drain water heat recovery?

Drain water heat recovery is the use of a heat exchanger to recover energy from waste water. Instead of losing this heat down the drain, it is transferred to cold water that, consequently, becomes warmer. This technology allows to drastically reduce primary energy consumption for sanitary water heating.

Why is it important to recover heat from drain water?

After space heating, sanitary water heating is the second biggest household energy use. But it is also the first household energy waste: warm shower water going down the drain takes about 90% of the heat energy with it. Recovering this energy is simple and results in remarkable savings on energy costs and also allows to reduce our carbon footprint.

ZYPHO TECHNOLOGY

How does ZYPHO work?

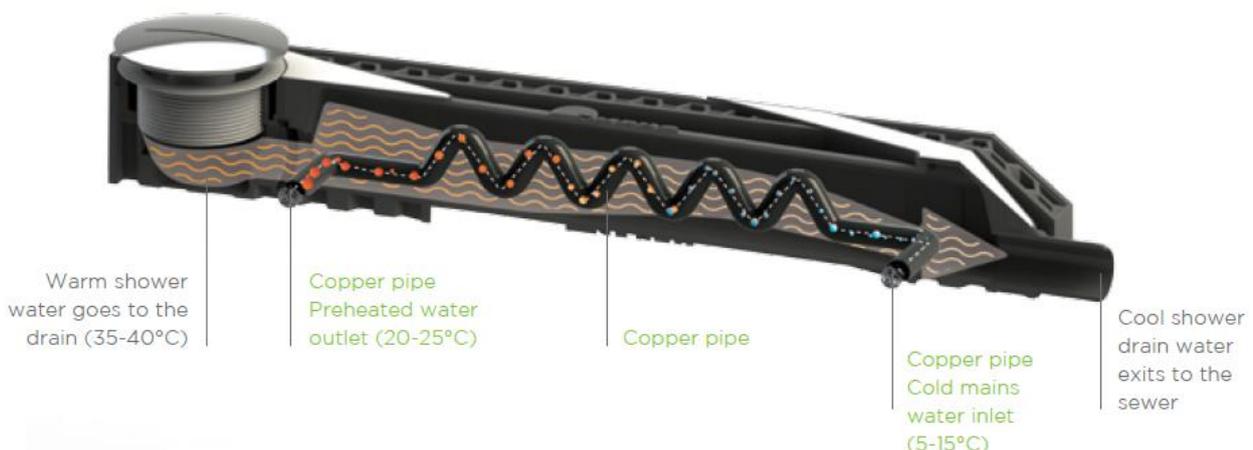
To obtain correct shower water temperature (38-40°C), hot and cold water are combined at the shower mixer tap. Both have different origins: hot water comes from your heating device and cold water comes directly from the mains.

Easily installed under a shower tray or a bathtub, ZYPHO utilises the heat from the hot water flowing down the drain. Drain water entering the ZYPHO (35-40°C) transfers its heat energy to the copper pipe with cold mains water (5-15°C). Cold mains water going through the copper coil of the ZYPHO, in turn, absorbs this heat and therefore becomes warmer. After having passed through the heat exchanger, cool drain water then exits into the drainage system.

Preheated water (20-25°C) goes to the shower mixer and, consequently, a smaller volume of hot water from your heating device is needed to reach an appropriate shower water temperature, which literally means that less energy is used.

Fighting against n°1 household energy waste, ZYPHO will lower your utility bills while increasing your heating device output.

Section view



Does it require any electrical power?

No. ZYPHO technology is based purely on heat exchange principles and requires no electricity to transfer heat from drain water to fresh water supply.

How long is a ZYPHO unit expected to last?

The expected lifetime of ZYPHO drain water heat recovery units is 50 years. This exceptional durability is a result of the use of certified high-quality materials and a reliable technology based on physical principles.

Can hard water affect the ZYPHO?

No. Minerals in water can leave deposits when heated to high temperatures, which represents a problem for boilers and other water heaters. The usual temperature range of the water circulating in a ZYPHO unit (drain water, fresh water and preheated water) is not high enough to cause mineral build-up.

BENEFITS

What benefits will ZYPHO bring to my family?

- ZYPHO will allow you to save up to 40% on shower water heating. Otherwise, you may opt for having longer showers, with no extra costs!
- It will increase the output of your heating device and considerably extend its lifetime.
- Joint installation with, for example, a solar hot water system will drastically increase energy autonomy of your house.
- Making your home more energy efficient than ever before, ZYPHO will give an important added value to your dwelling.
- ZYPHO will reduce your negative ecological footprint.

What benefits will ZYPHO bring to my business?

- ZYPHO will allow you to save up to 40% on shower water heating.
- It will increase the output of your heating device and considerably extend its lifetime.
- Joint installation with, for example, a solar hot water system will drastically increase your energy autonomy.
- ZYPHO will reduce your negative ecological footprint.

What is the efficiency of the ZYPHO?

Tests accomplished by the independent certification body KIWA Nederland BV confirm the optimal performance of the ZYPHO.

Shower Flow Rate	Configuration A*	
	Efficiency**	Recovered Energy**
5.8 l/min	32.5 %	4.0 kWh
9.2 l/min	31.1 %	6.0 kWh
12.5 l/min	28.5 %	7.5 kWh

* connection to the heating device and to the shower mixer tap

** these values were obtained under the following conditions: cold mains water at 10°C, shower water at 40°C

How much will I save?

ZYPHO is one of the easiest and most cost-effective improvements that you have ever been able to make! For example, an average household with three 9-minute showers per day (shower water at 40°C, cold mains water at 10°C; energy cost – 0.15€/kWh) saves about 175€ per year, which results in a payback period of around 2 years.

If in your family showers are longer or hotter or more frequent than average or if you have a rain shower instead of a normal one, you will certainly be saving more.

Calculate YOUR savings [HERE](#).

What is ZYPHO's payback?

As for residential applications, in an average household with 3 daily showers, ZYPHO will have a payback period of only 2 years.

In non-residential applications, especially in case of such intensive shower users as sports facilities, hotels, hospitals, factories, etc, paybacks can be exceptionally short – of just a couple of months.

How will I know that my ZYPHO works?

A good question since, once installed, the unit is completely invisible and you are going to forget about its existence. The answer is that your reduced energy bills will remind you of it!

INSTALLATION. APPLICATIONS

Is ZYPHO easy to install?

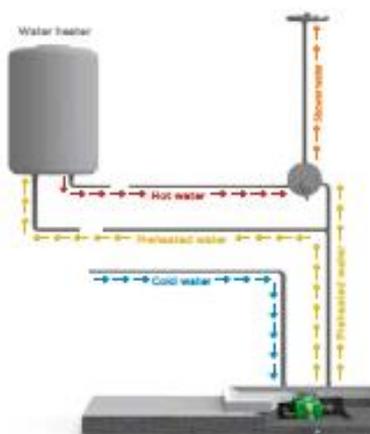
We recommend that the ZYPHO is installed by a competent plumber. At the same time, installing the ZYPHO is similar to connecting normal plumbing piping. If you are an experienced DIY person and are comfortable with installing piping, you are likely to manage installing the unit yourself.

Please find guidance on ZYPHO installation [HERE](#).

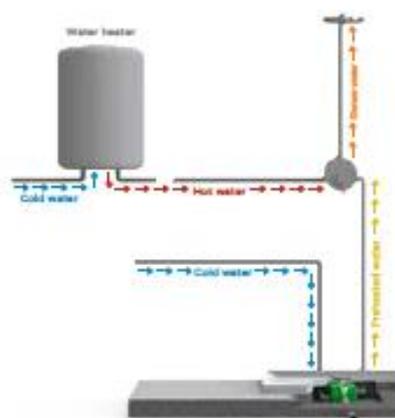
What are possible installation configurations?

Cold mains water is always connected to the ZYPHO inlet. Preheated water exiting the ZYPHO can be connected:

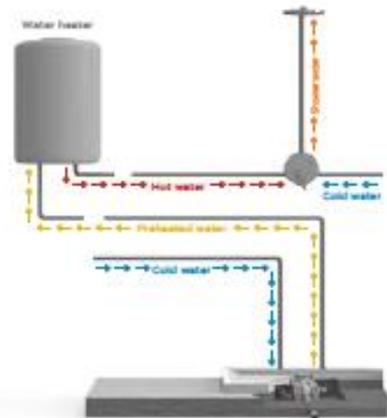
- A. to the shower mixing faucet (cold mains water) and to the domestic water heater inlet.
- B. to the shower mixing faucet (cold mains water) only.
- C. to the water heater inlet only.



Configuration A



Configuration B



Configuration C

Which installation configuration provides a maximum of savings?

Connecting ZYPHO's preheated water outlet both to the cold side of the shower mixer tap and to your heating device (generally referred to as "System A") will provide a maximum of savings. On the other hand, this installation configuration may not be practical in some situations, e.g. when your water heater is situated too far from your shower. In this case, we recommend you to opt for connecting your ZYPHO only to the shower mixing faucet.

Can I connect preheated water from the ZYPHO to any water heater?

If you opt for connecting ZYPHO's preheated water to your heating device, make sure that it accepts preheated water inlet (up to 30°C).

Will ZYPHO allow me to save if my bathroom is on the ground floor?

Yes. The ZYPHO is a horizontal drain water heat recovery system that is installed directly under a shower tray / bathtub and requires very little space. While being highly efficient, the compact design of the unit makes it the ideal technology even for ground floor bathrooms.

Is ZYPHO suitable for non-residential applications?

Yes. Thanks to its unique design, the ZYPHO is a versatile system that is beneficial for both residential and non-residential applications. In non-residential applications, in case of such intensive shower users as gyms, hospitals, factories, etc, payback periods may be exceptionally short.

MAINTENANCE

Is there a risk of clogging?

The ZYPHO's design has been optimized in a manner to avoid the problem of clogging.

What maintenance does the ZYPHO require?

The ZYPHO has been designed to require little maintenance. We recommend you to regularly remove hair and dirt from the unit's trap / filter.

In order to preserve your ZYPHO's original heat recovery efficiency we advise you to periodically (once a year, depending on the usage rate) dissolve soap residue inside of the unit with your usual drain cleaner. You can also clean the inside copper pipes with a pipe cleaning brush (through the shower valve).

SAFETY

Is there any contact between fresh water and drain water?

No. There is no contact between fresh water supply and drain water. The transfer of heat energy is achieved through a double-walled copper heat exchanger (ZYPHO 8kW) in accordance with the regulations EN 1717.

Is ZYPHO a safe device as to Legionella-related risks?

Yes. ZYPHO's design allows to minimize Legionella-related risks:

- The unit has no dead spaces and is subject to high flow rates which prevents water from stagnation.
- Drain water never stays a long time inside of the unit since its construction guarantees that it is fully drained out at the end of the shower.
- After shower, fresh water cools down below 25°C, [as recommended by the WHO](#).
- The ZYPHO is always installed relatively close to the shower mixer which minimizes the distance between the unit and the shower valve.

- Copper coil itself contributes to reducing Legionella-related risks.

Is there a risk of scalding?

When ZYPHO is installed to preheat the cold side of the mixing tap, shortly after starting your shower, cold water will become warmer. Unless hot water flow is adjusted, increasing cold water temperature will result in the output temperature of the shower water increasing as well. Therefore, using a thermostatic mixing valve is important since it allows to automatically maintain a constant output temperature despite any variations in incoming water temperatures by adjusting hot and cold water flows.

