

# Recoh<sup>®</sup>-Drain heat exchanger

## For heat recovery from waste water of a shower



### Dwellings.

Reducing energy consumption is a must nowadays, a matter of survival. Since houses are better insulated, energy consumption for space heating has been drastically reduced. On the other hand, hot water consumption has been increasing annually. People are taking more, longer showers.

The most efficient and economical way of reducing shower energy consumption is to recover energy from waste water. Savings of about 40% can be achieved. If a small thermal solar energy system is used too, almost no energy is required.

As a result of climate change the need to save energy is very high. The Recoh<sup>®</sup> heat exchangers can make a substantial contribution to the need to save energy and thereby reduce the emissions of the greenhouse gas Co2.

### The Recoh-drain.

When you take a shower much of the heat goes straight down the drain with the waste water. Hei-tech has developed a heat exchanger, the 'Recoh-drain', which instantaneously preheats the mains cold water to the shower and/or water heater.

The 'Recoh-drain' is designed to reduce energy consumption during domestic hot water usage. The hot waste water from the shower passes the heat exchanger on its way down the drain. The heat is exchanged with the water from the mains water en route, to both the water heater and the shower. It is also possible to just preheat the fresh water going directly to the shower.



The Recoh-drain is placed in a shower drain. And is completely integrated into the floor.



Due to the very high efficiency, you will require less than 60% of the energy you currently use for instant water heating. Or, if you use a hot water storage system, you will need less than half the water you currently use.

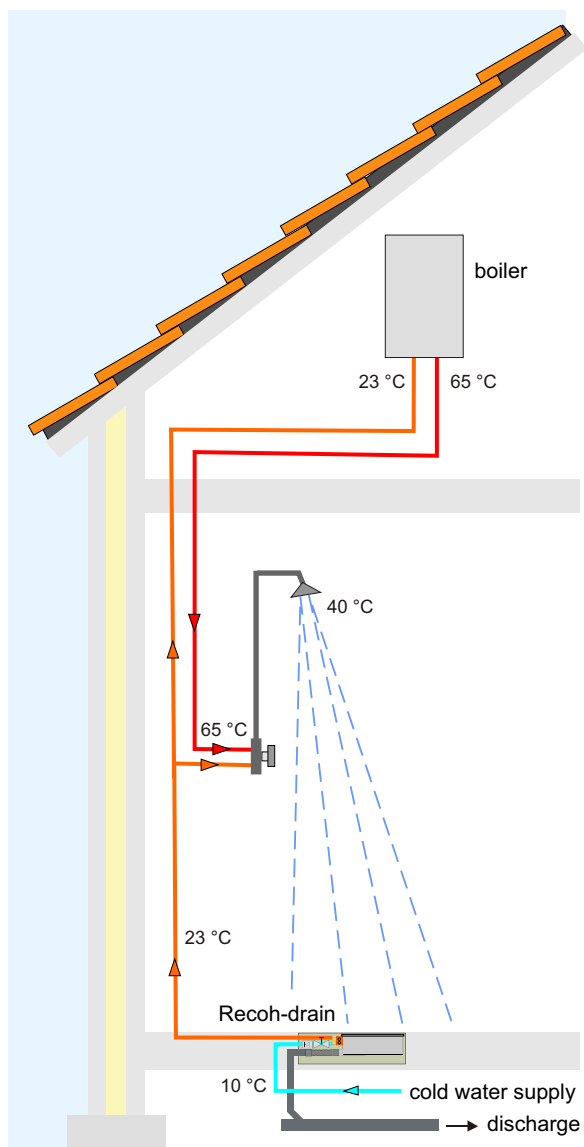
### Application.

The Recoh-drain can excellent be used in apartments, dwellings with bathrooms on the ground floor, etc. The height of the heat exchanger is such that it can be placed in almost any floor.

Besides the application in dwellings the Recoh-drain can be used also in Hotels, swimming pools, nursing homes, etc.

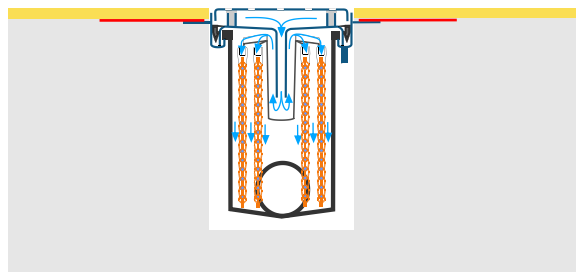
Also in industrial enterprises the heat from the waste water can be easily utilized by using the Recoh-drain.

Without a heat exchanger from Hei-Tech all the energy from the hot waste water flows away into the sewer. Overall a waste of energy.



### The construction.

The Reco-h-drain consists of several plates over which the waste water flows from the shower. In the plates the fresh water flows upward. At the bottom of the tank from the heat exchanger, the drain water is being discharged. Directly below the grate is placed the siphon gutter.



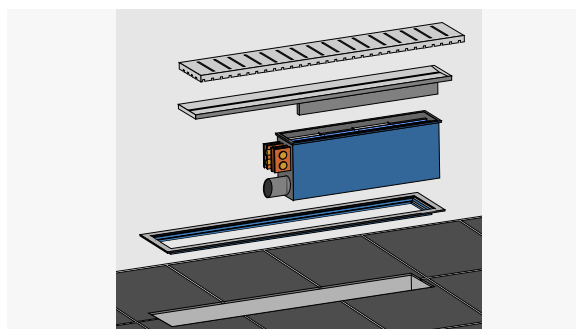
The exceptional thing about the 'Reco-h-drain' is that it has a double barrier between the waste water and the tap water. The great advantage of a double barrier is that this allows the heat exchanger to be connected directly to the indoor plumbing. No open connection in the indoor plumbing is therefore required! The heat exchanger is totally closed which means that no odor and moisture will be distributed.

The heat exchanger holds less than one litre. This will cause the heat exchanger to start working almost immediately after you start taking a shower.

The 'Reco-h-drain' is a straightforward, simple design which does not use pumps or controllers. It is made of strong materials such as copper which means it has a long working life.

### The advantages:

- Save up to 42 % on your energy usage.
- No edges and therefore ideal for seniors.
- Easy to install.
- Simple and Reliable.
- Small investment.
- Short pay-back time.
- Maintenance free.
- Long life time.
- No pumps or controllers.
- No electricity required.
- Easily accessible.
- Non-return and cut-off valve directly at the heat exchanger.
- Fully closed, no odor and moisture problems.
- Double wall between fresh water and discharge.
- Can be connected directly to the indoor plumbing.



### Certificering.

The efficiency of the Reco-h-drain' was measured by the Dutch KIWA/Gastec Certification and is 44.1% with a fresh water flow of 9.2 litres/minute and 42.1% with a fresh water flow of 12.5 l/min. Due to this efficiency the pay-back time of the 'Reco-h-drain' is therefore extremely short.

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