

General

We would like to congratulate you on your purchase of the 'Recoh-drain'. The 'Recoh-drain' is one of most economically interesting forms of energy saving. The pay-back time is short! Using the 'Recoh-drain' saves on fossil fuels. The stocks of fossil fuels are limited and using the 'Recoh-drain' can help reduce global warming.

1. The Recoh-drain

1.1 Introduction

On average, a shower uses 60 litres of water at a temperature of between 40 and 41 °C. This shower water goes straight down the drain, wasting a great deal of heat. By running the hot water through the 'Recoh-drain', this heat can be transferred to the water on its way to the boiler and the cold water tap of the shower's mixer tap. This heat transfer takes place during simultaneous flows i.e. while you shower.

Every Recoh-drain has a sticker with technical information and unique number. **The sticker must always be legible. If not legible the guarantee will expire.**

1.2 General

The Recoh-drain is placed in a shower drain. The Recoh-drain can excellent be used in apartments, houses with bathrooms on the ground floor, etc. The height of the heat exchanger is such that it can be placed in almost any floor. The Recoh-drain comes with matching frame and grate.

When you start showering it takes a little while for the 'Recoh-drain' to start contributing to the heating of the cold water. This means the temperature of the shower water will continue to rise for some time. Using a thermostatic mixer tap is therefore recommendable.

When using the shower pipe, the tap limit of the hot water preparer must be taken into account. It is possible the necessary energy (blending hot water) is lower than the minimal quantity of energy delivered by the hot water preparer (switch-off point burner).

1.3 Description of the heat exchanger

The Recoh-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 'Recoh-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!



1.4 Accessibility

The controllable non-return valve should be visible and accessible. Any possible leaks should be able to be seen. The heat exchanger is a device and should therefore be accessible. Any possible replacement should be able to take place without having to take everything apart.

1.5 Aansluitingen

The tap water supply pipe should have a controllable non-return valve and a cut-off valve installed in it (these are already pre-assembled).

The free 15mm tubes of the heat exchanger must be connected to the mains water supply pipe by two flexible connections. These connections must be demountable. For dimensions and further details please refer to the drawings of the installation instruction.

The outlet is through a flexible tube connected to the sewerage. The external diameter of the outlet is 50 mm and can therefore be connected to the standard PP and PVC pipe dimensions for the sewer. The sewer coming into the recess must be 50 mm.

Deaeration of the Recoh-drain is not necessary, all air will disappear by opening the tap.

1.6 Materials and dimensions

All the heat exchanger's parts that come into contact with water have been made of copper. The heat exchanger's tank is made of high-quality plastic. Please refer to the relevant drawing for the dimensions.

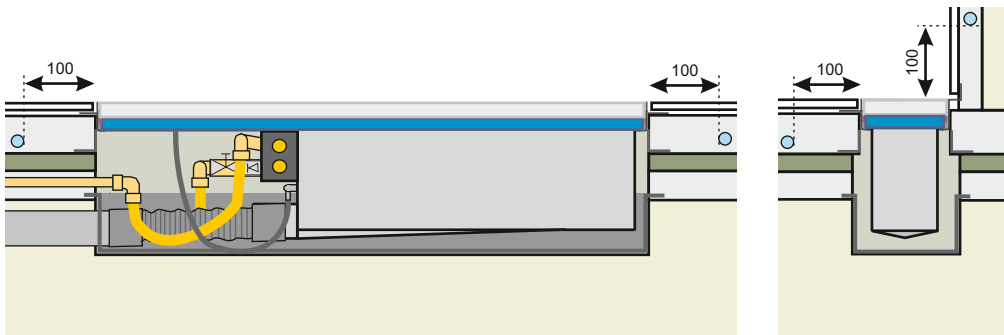
1.7 Safety and Legionaire's Disease

The temperature of the tap water in the heat exchanger sometimes exceeds 25 °C. The temperature should not exceed that when the 'Recoh-drain' is not in use (no cold water flowing). The 'Recoh-drain' may therefore not be installed next to heat transporting pipes or on warm surfaces such as on floor heating. The cold tap water pipe en and the 'Recoh-tray' may therefore not be insulated.

However, the 'Recoh-tray' contains less than 1 litre of tap water. According to this it may be assumed that no Legionaire's Disease will develop.

Floor and wall heating:

Assuming a maximum temperature of 50 °C water in the floor heating system, there must be at least 100 mm distance to be held to the Recoh-drain system (see drawing).

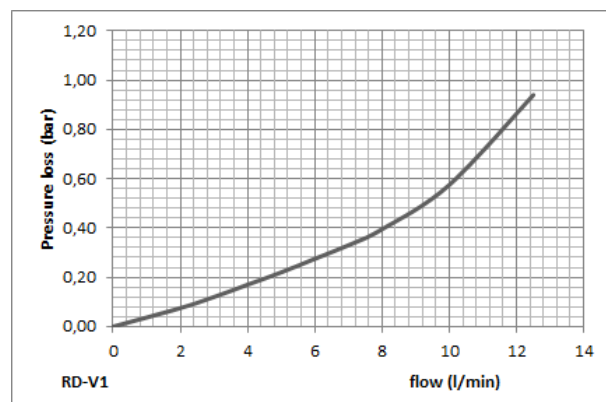


1.8 Loss of pressure

The figure at right illustrates the pressure loss of the 'Recoh-drain', on the tap water side.

At 9,2 l/min the pressure loss is 0,53 bar.

At 12,5 l/min the pressure loss is 0,94 bar.



1.9 Design installation

It is necessary to take into account the installation of the Recoh-drain during the design phase of a building. For the heat exchanger is required a recess in the floor of 875x170mm and 200mm deep (from top screed). Regarding to this must be taken into account the place in the floor (measurements) and the constructive consequences of this.

The heat exchanger must also be taken into account in the design of the sewer (gradient). The heat exchanger has a certain depth that is necessary and on top of this comes the required amount of grade in the sewerage. The connecting pipe ($\varnothing 50\text{mm}$) until a length of 3.5 meters requires no grade. From 3.5 meters the pipe must be $\varnothing 75\text{mm}$ and is a gradient of 5mm/m¹ required.

When used in apartments and on the first floor of dwellings the Screed mould template must be used, see [installation instruction Screed mould template](#). This simplifies making the recess in the floor and the installation (correct position discharge).

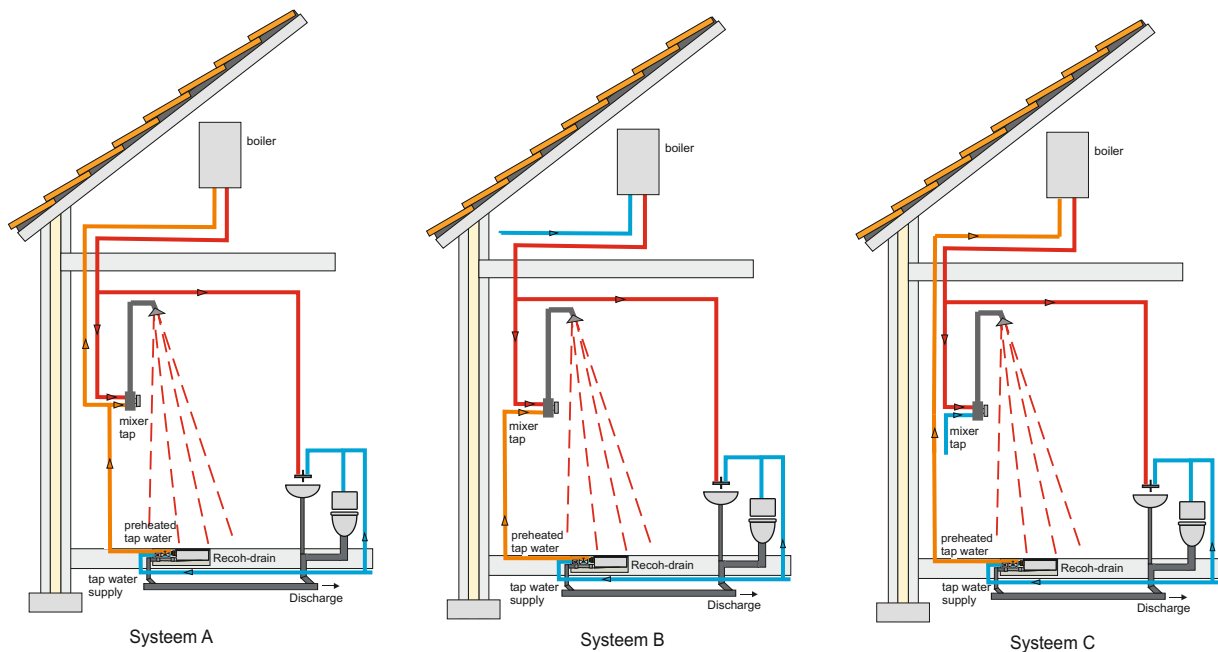
2. Installation

2.1 Systemen A, B and C

The inlet side of the 'Recoh-drain' can be connected to the tap water system in the house. The outlet side can be created in several ways, namely:

- Combined connection of the heat exchanger to the cold water connection of the shower's mixer tap and the water heater.
- Connection solely from the heat exchanger to the tap water connection on the shower's mixer tap.
- Separate connection of the cold water connection to the water heater.

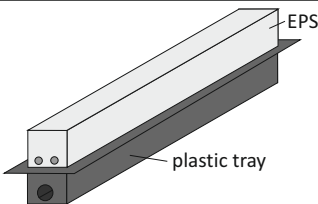
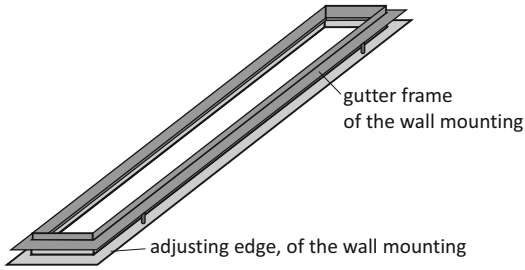
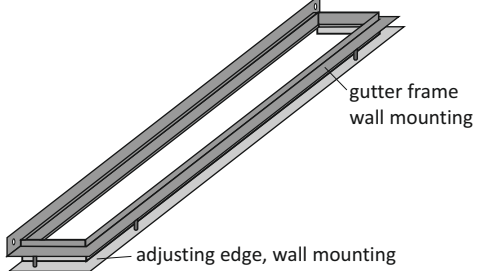
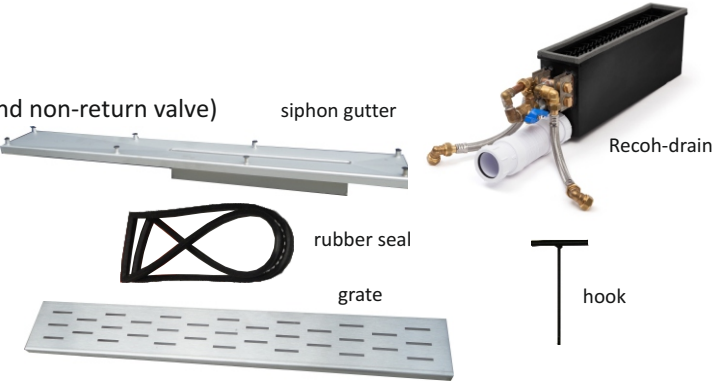
De grootste besparing met de Recoh-drain kan worden verkregen door systeem A toe te passen.



2.2 Mounting the 'Recoh-drain'

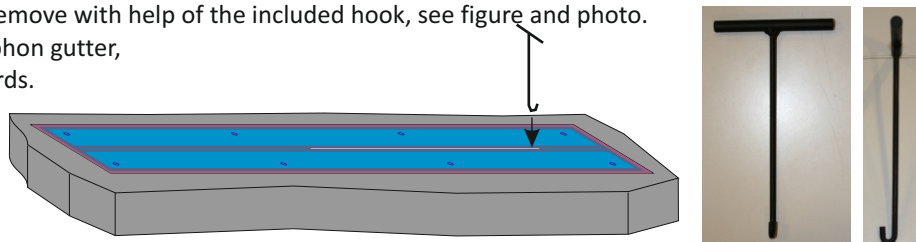
The Recoh-drain is suspended to the gutter frame. Then the siphon gutter is placed on the frame and heat exchanger. On top of this the grate is placed.

3. Overview of components of the Recoh-drain

<p>Screed mould template Code RD-BK835 Contents: - plastic tray with EPS filling - installation manual</p>	 <p>Labels: EPS, plastic tray</p>
<p>Mounting set (of the wall mounting) Code RD-SR835-V Contents: - adjusting edge (in height adjustable) - installation manual Code RD-MF835-V Contents: - Gutter frame RVS - installation manual</p>	 <p>Labels: gutter frame of the wall mounting, adjusting edge, of the wall mounting</p>
<p>or</p> <p>Mounting set (wall mounting) Code RD-SR835-W Contents: - adjusting edge (in height adjustable) - installation manual Code RD-MF835-W Contents: - Gutter frame RVS - installation manual</p>	 <p>Labels: gutter frame wall mounting, adjusting edge, wall mounting</p>
<p>Recoh-drain and finishing set Code RD1-V1-AS835 Contents: - Recoh-drain heatexchanger (incl. connection tubes, cut-off and non-return valve) - Siphon gutter RVS - Grate RVS - Rubber seal - Hook - installation manual</p>	 <p>Labels: siphon gutter, Recoh-drain, rubber seal, grate, hook</p>

4. Maintenance and cleaning

So far it seems useful to us to check the distributor every year or every six months and if necessary to clean it. The siphon gutter is easy to remove with help of the included hook, see figure and photo. Place the hook behind the siphon gutter, than pull siphon gutter upwards.



Remove rubber seal. Then clean the siphon, distributor and rubber seal. First replace the siphon gutter then replace the rubber seal (start from to corners towards the middle). Replace grate. It is not recommended to flush shaving gel and toothpaste since they are very sticky and could adhere to the plates of the heatexchanger.

Should you have any comments or additions to this manual, please do inform us (info@hei-tech.nl).

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