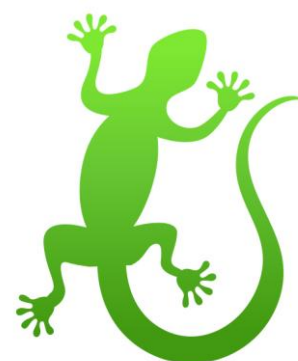


Gecko

INSTANT WASTEWATER HEAT
RECOVERY SYSTEM

Data sheet



PRÉSENTATION

Gecko is a shower wastewater heat recovery system capable of producing hot water up to 42 ° C instantly.

80% of the heat supplied to the shower mixer comes from waste water recovery and 20% from ceramic electrical resistance.

FEATURES

Width x Height x Depth	45 × 70 × 20 cm
Weight	37,5 kg
Maximum Temperature¹	42 °C
Nominal recover Power¹	10,9 kW
Minimum required pressure	1,5 bar
Optimized flowrate	6L/min
Warranty	5 ans

***For a 8L/min at 12,8°C cold water inlet and 8L/min at 37°C for wastewater inlet.**

THERMAL DATA

In France, instantaneous heat recovery systems have their thermal performance measured according to the RECADO protocol.

The protocol consists in running typical showers (60 L at 37 ° C) and measuring the amount of energy recovered by the system. The efficiency of the system in steady state ("hot") is rated Eff_{nom} and the speed at which a system is reaching the steady state is rated C_{trans} .

For example, a system with an Eff_{nom} of 50% and a C_{trans} of 90% does recover 50% of the recoverable heat when it has reached the stabilized state.

However, over a full shower (60L) it only recovers 50% x 90% = 45% of the recoverable energy because it was not as efficient at the start of the shower.

The thermal efficiency results were sent to us by CSTB following the RECADO week test carried out from November 02 to 09, 2020.



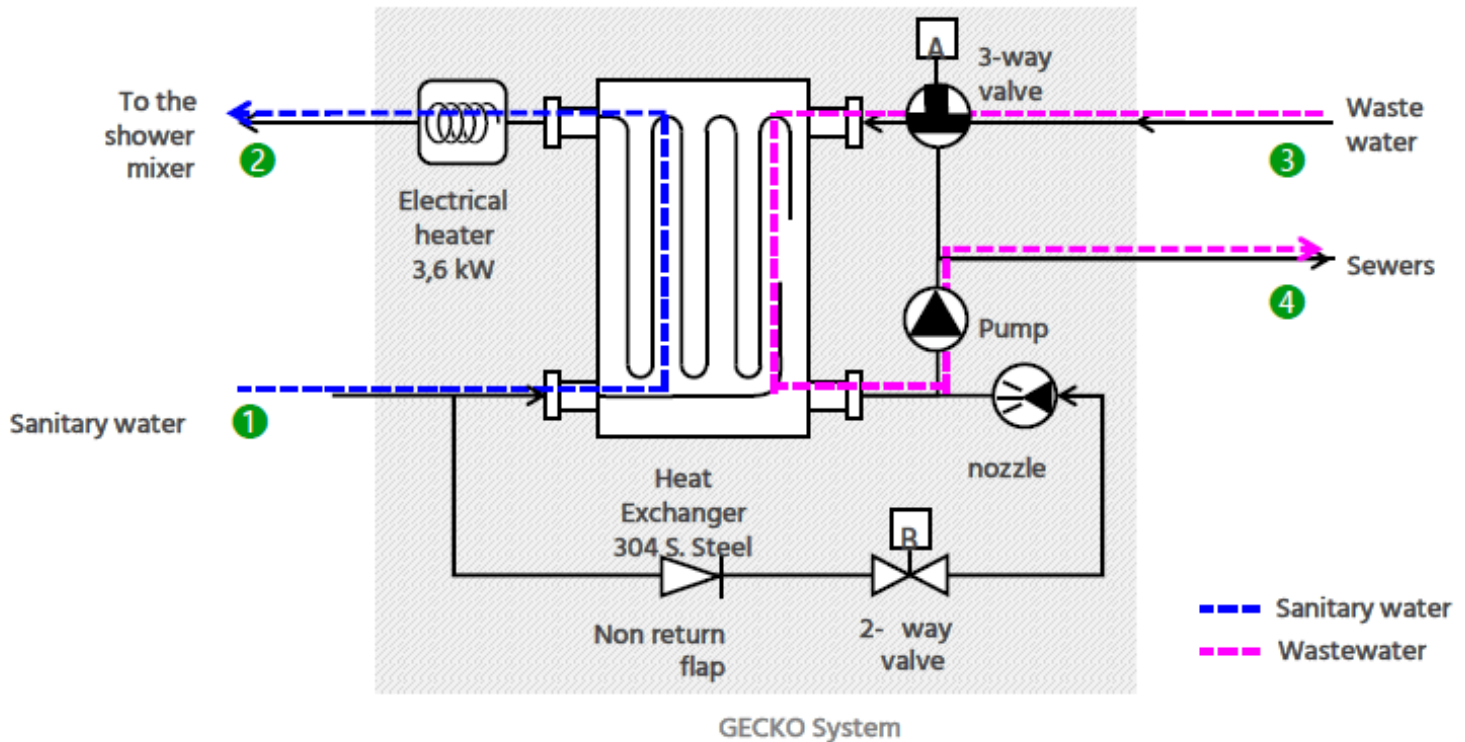
CSTB is testing the three possible assemblies (tank, shower mixer, mixed).

Gecko was tested according to this protocol in November 2020 by CSTB Nantes, with the following results:

Tank assembly : preheating water heater	$C_{trans} = 0,94$
	$Eff_{nom} = 0,60$
Shower mixer assembly : preheating shower mixer	$C_{trans} = 0,91$
	$Eff_{nom} = 0,72$
Mix assembly : preheating both water heater and shower mixer	$C_{trans} = 0,95$
	$Eff_{nom} = 0,88$

HYDRAULICS SPECIFICATIONS

Below is the hydraulic diagram of Gecko System in "heat recovery" mode :



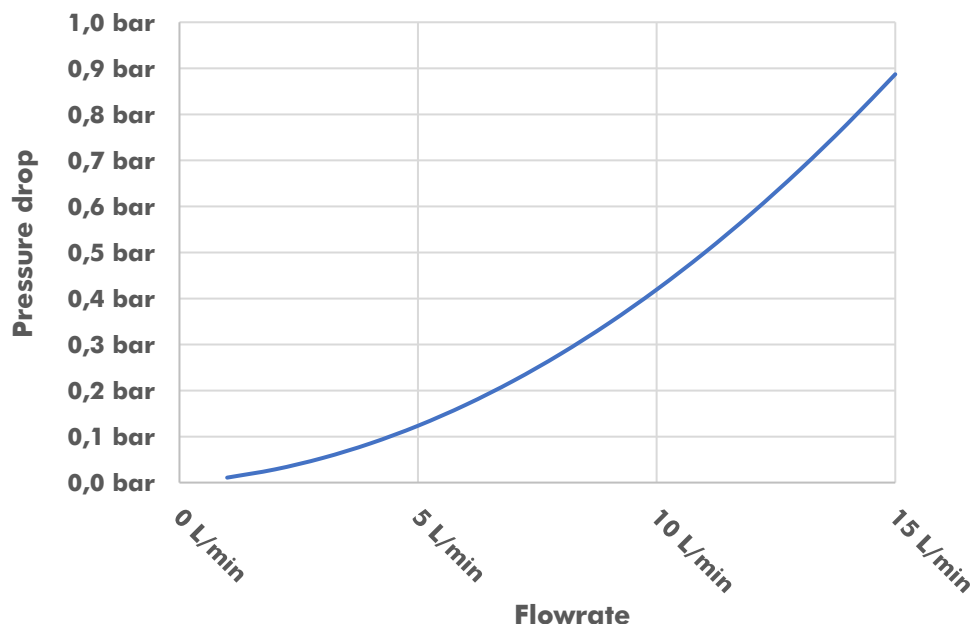
① Sanitary water inlet
② Preheat sanitary water outlet

③ Wastewater inlet
④ Wastewater outlet

Type of water treated: Gecko can treat wastewater from showers. Gecko must not receive wastewater from WCs (black water). Gecko can be used with alkaline chemical unblockers (soda, lye, NaOH). Its heat exchanger is made of single-walled 304L stainless steel. **Do not put any acid or chlorine tablet in Gecko – this will damage the heat exchanger.**

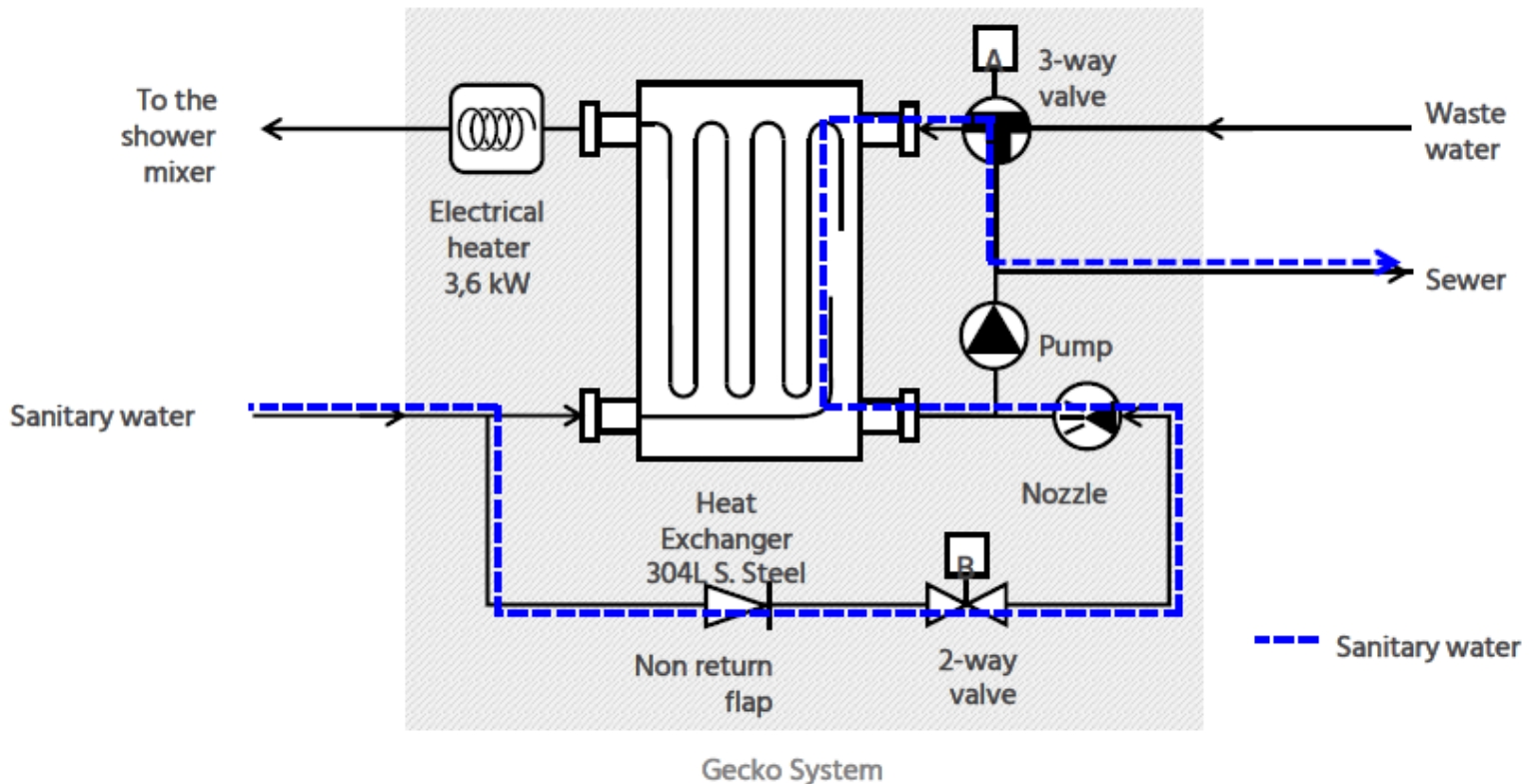
Pressure drop : Like any hydraulic equipment, Gecko generates pressure drop, which depends on the flow of cold water flowing through it. These pressure drops are shown in the graph on the left:

It is necessary to have **at least 2.5 bar** on the sanitary water network for the Gecko system to function properly.



OPERATION: AUTOMATIC CLEANING

Gecko maintains its heat exchange performance with automated weekly cleaning. Pressurized water from the network is injected into the wastewater circuit of the heat exchanger, against the flow of "heat recovery". The hydraulic diagram is as follows:



The "cleaning" mode of the Gecko system takes place every 7 days, on a date and at a time fixed in the factory, for 45 s.

The water consumption associated with cleaning varies with the pressure available on the sanitary water network and is generally around 0.8 m³, or 0.2% of the total water consumption of the home.

This cleaning is self sustaining and does not require human intervention, however the Gecko system cannot supply hot water to the mixer or suck up waste water during the cleaning phases.

Users do not need to change their habits in the rest of the home. Only a drop in pressure can be perceived; this pressure drop only slightly affects the flow rates available at other draw-off point.

INSTALLATION : WASTEWATER CONNECTION

The Gecko® system draws the wastewater from the shower from the drain using a sump pump.

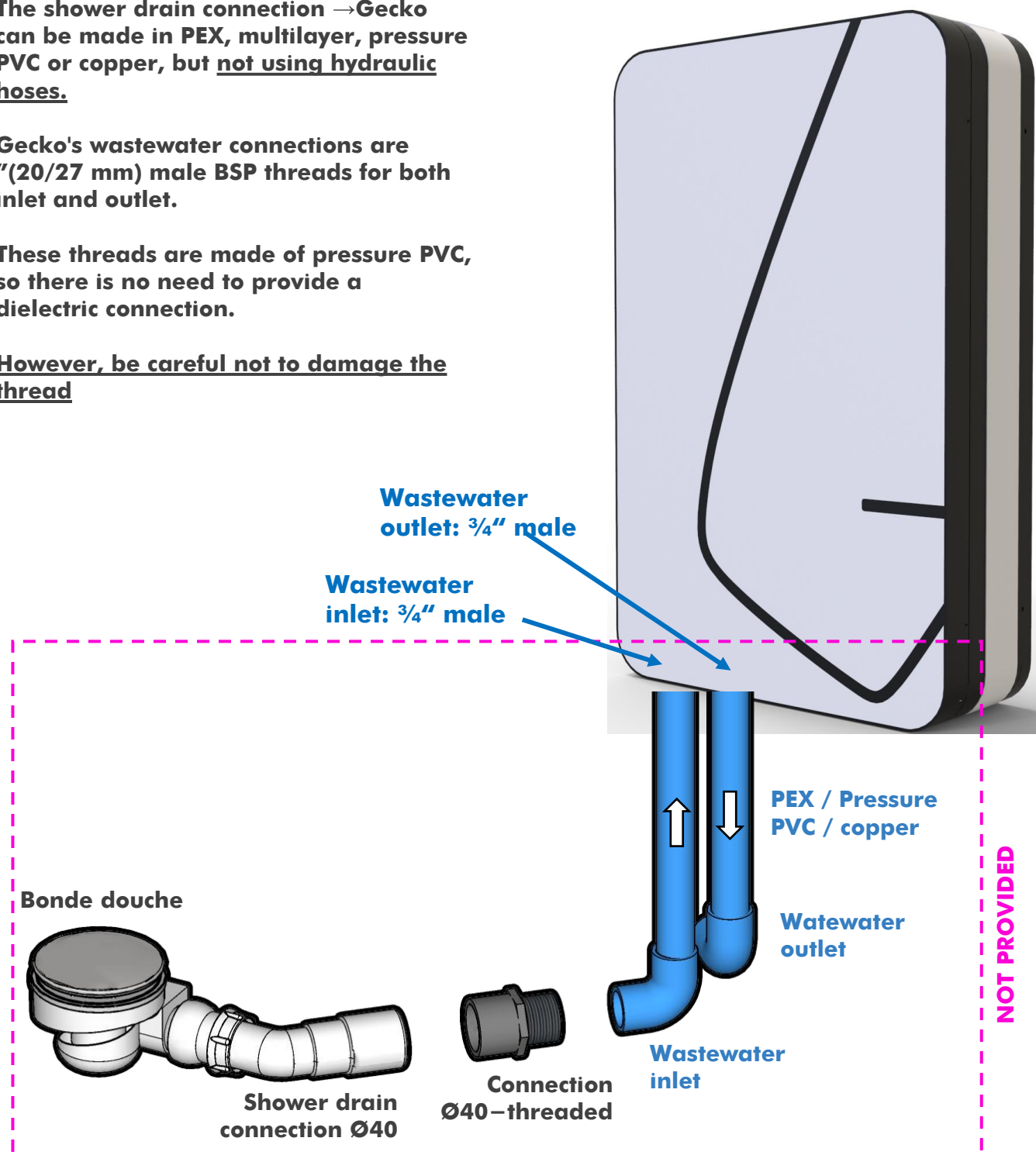
The shower drain connection → Gecko can be made in PEX, multilayer, pressure PVC or copper, but not using hydraulic hoses.

Gecko's wastewater connections are "(20/27 mm) male BSP threads for both inlet and outlet.

These threads are made of pressure PVC, so there is no need to provide a dielectric connection.

However, be careful not to damage the thread

Gecko



INSTALLATION: SANITARY WATER CONNECTIONS

Gecko

Gecko® system supplies the shower mixer with direct hot water, replacing a water heater.

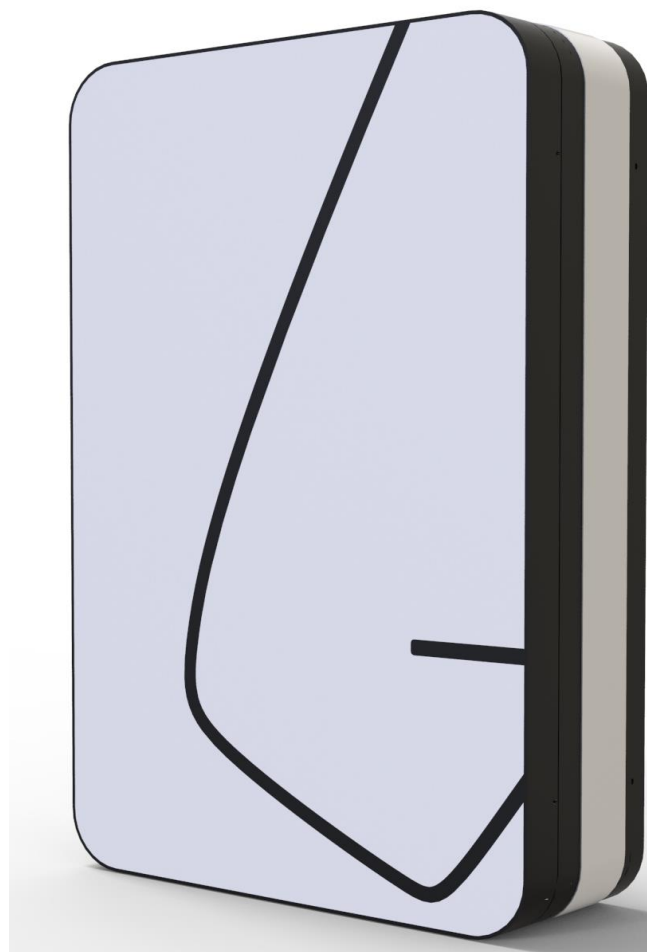
The connection between the Gecko system and the tap can be made in multilayer, PEX, pressure PVC, copper or hydraulic hoses.

Hot inlet shower mixer

Gecko's sanitary water connections are : $\frac{3}{4}$ " (20/27mm) and $\frac{1}{2}$ " (15/21mm) male BSP threads.

These threads are made of pressure pvc, so there is no need to provide a dielectric connection.

However, be careful not to damage threads if you use metal threaded connections.



**Pipes and connections :
PER / PEX / Pressure PVC
/ Copper**

**Hot sanitary water outlet :
 $\frac{1}{2}$ " male**

**Sanitary cold water inlet :
 $\frac{3}{4}$ " male**