

RECOUP EASYFIT+ INSTALLATION INSTRUCTIONS

SHOWER WASTE WATER HEAT RECOVERY SYSTEM



Certificate No: 1806308

These instructions are to be left with the user.

1. Introduction

The RECOUP Easyfit+ is a Waste Water Heat Recovery System for shower water (WWHRS). It recovers heat from the warm waste water as it passes through the unit, before going to the drainage system.

The heat recovery is possible due to the double walled heat copper heat exchanger within the RECOUP Easyfit+, a very effective material for transferring heat. The double walled exchanger gives full protection against any contamination between the waste water going out and the fresh potable water coming in. This preheated water then supplies the mains cold feed to the shower and/or a water heater (Combi-boiler, hot water storage cylinder, Thermal store or HIU).

The reason for doing this is to save money and energy. In an average shower, the water will come out of the shower head at 40°C, and the water going down the drain will only be a few degrees cooler than this. This energy has been paid for once, and we believe at RECOUP, that the home owner should get as much benefit from this energy before paying to reheat more water and at the same time reduce the energy consumption and CO₂ emissions of the home.

The RECOUP Easyfit+ should be installed by a suitably qualified plumber who gives consideration and attention to the system design as well as a correct installation.

The RECOUP Easyfit+ is a horizontal heat exchanger, and is designed to work with showers either over a bath or a shower tray. It is very important to follow all the instructions for installation of the RECOUP Easyfit+ for the product to perform optimally.

Standard Assessment Procedure (SAP) - IMPORTANT

For recognition of the RECOUP Easyfit+ energy saving performance within the National Calculation Method (NCM) for the energy rating of a new build dwelling within the UK (also known as the Standard Assessment Procedure (SAP)) it is vital that the pre-installation requirements (Section 3) and installation process (Section 4) contained in this installation manual are followed correctly and complied with fully.

An NCM (SAP) identifier label (already applied) is permanently fixed to the RECOUP Easyfit+ unit. A second label supplied with the RECOUP Easyfit+ for application must be attached to a nearby water heater or service cupboard within the property. The 'model qualifier' section of the first label denotes the system installation method (A, B or C) and will state 'Refer to installation certificate **otherwise System B will be assumed**'. The actual system installation method will be recorded on the installation / warranty certificate and the second NCM (SAP) identifier label. The second NCM (SAP) label applied within the property must be edited to record the installation method (A, B or C) when installed along with the product serial number.



2. Product technical data

2.a) General Information – RECOUP Easyfit+

Description	Value	Unit
Minimum height required for installation *	95	mm
Overall product length *	1176	mm
Overall product width *	386	mm
Material - Heat Exchanger	Copper	
Shower flow rate range	5 - 20	Litres/min
Max. Mains water inlet pressure	10	bar
Min. Mains water inlet pressure	1	bar
Max. Mains water working temp	85	°C
Mains water connection	½" male	BSP
Waste water connection	40 - 43	mm
Full product weight (Boxed)	9.7	kg
Water volume - mains water	0.87	Litres

The mains water and preheat connections are a ½" male BSP connector which can be joined to either a 15mm or 22mm pipe with reducer. The waste water connection will fit either a 40mm push-fit or 43mm solvent pipe.

* The total dimensions required for installation change relating to required pipework runs, connections, and falls. For installation heights below 125.5mm the RECOUP Easyfit+ legs may need to be cut down.

2.b) Performance & Efficiency - Based on KIWA test data and PCDB figures for SAP 2012

Shower Flow Rate @ 40°C (Litres/min)	Easyfit+ Efficiency (Recovered energy kWh)		
	System A	System B	System C
5.8	47.6% (5.01)		
9.2	46.4% (7.74)		
11.0	44.2% (8.70)	35.2% (7.02)	39.2% (7.82)
12.5	41.8% (9.48)		

2.c) Pressure drop on main water circuit

Shower Flow Rate @ 40°C (Litres/min)	Easyfit+ Pressure Drop (bar)		
	System A	System B	System C
5.8	0.09	0.06	0.04
9.2	0.26	0.16	0.10
12.5	0.45	0.28	0.18

3. Pre-installation requirement

3.a) Basic system principle

The RECOUP Easyfit+ is a Waste Water Heat Recovery System (WWHRS) for shower water, meaning it recovers heat from the warm waste water from a shower as it passes through before going to the drainage system for the property.

This preheated water then supplies the mains cold feed to the shower and the Domestic Hot Water (DHW) heater or in the case of system configurations System B and System C, the shower or the DHW heater respectively. The DHW heater could be:

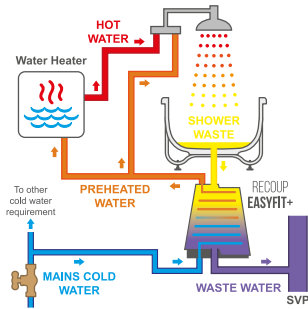
- Unvented hot water cylinder
- A combination boiler
- A thermal store or heat battery (Mains pressure DHW delivery)
- A Heat Interface Unit (HIU) on a district heating scheme (Mains pressure DHW delivery)

Note: The DHW heater must be a mains pressure system and able to accept preheated cold water.

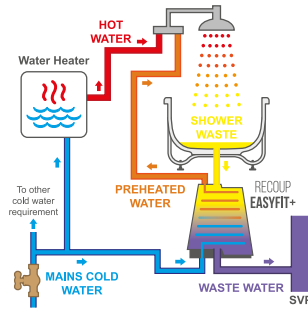
3.b) Installation configuration

The inlet for the RECOUP Easyfit+ is connected to the mains water supply, and the outlet (preheated water) can be connected in one of three ways.

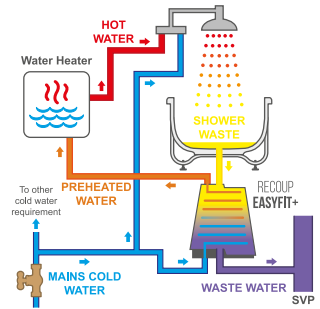
SYSTEM A



SYSTEM B



SYSTEM C



SYSTEM A – Preheated water supplied to shower mixer (Cold inlet) and DHW heater.

SYSTEM B – Preheated water supplied to shower mixer (Cold inlet) on the shower only

SYSTEM C – Preheated water supplied to DHW heater only

The performance of Systems A, B & C are all recognised within the SAP Products Characteristics Database (PCDB) for energy saving calculations, but remember that System A will produce the highest efficiencies (see section 2.b. for different system efficiencies).

3.c) Locating the RECOUP Easyfit+

The RECOUP Easyfit+ needs to be installed horizontally under the bath or the shower tray. Installation should take place on a flat surface capable of supporting the WWHRs. The location should allow for access to all parts and allow routine maintenance (E.g. Cleaning) to be carried out with relative ease.

The RECOUP Easyfit+ must be located within the heating envelope of the building.

The Easyfit+ must be installed with consideration to the most recent 'Approved document – Part H of the Building Regulations' for preventing the ingress of foul sewer gases.

3.d) Design checklist

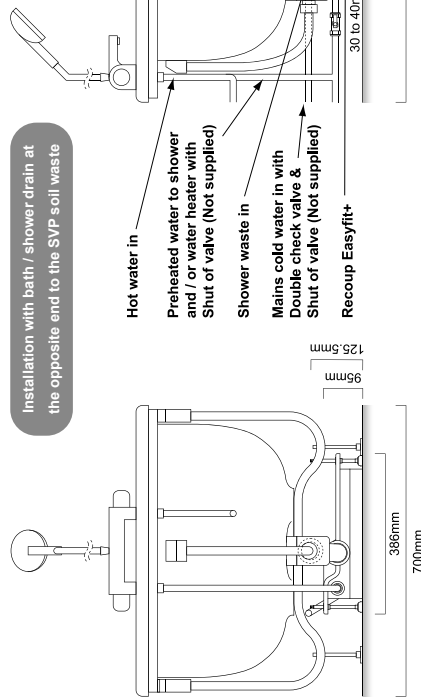
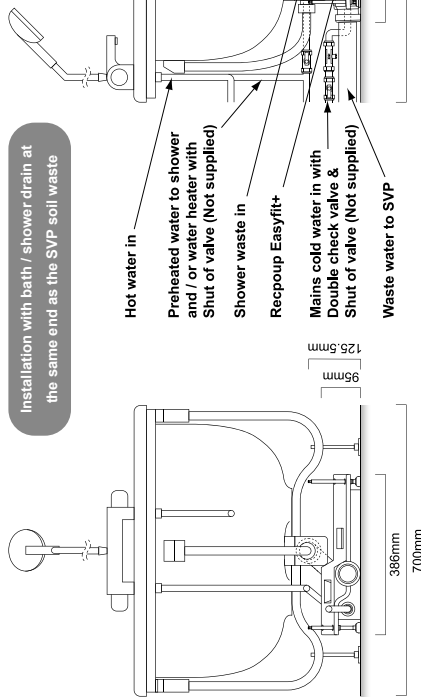
For recognition within the SAP calculations, the following must be complied with:-

- Consideration given to DHW delivery performance (Pressure & Flow rate)
- DHW system must be a mains pressure system
- DHW system must accept preheated water
- The RECOUP Easyfit+ must be located within the heating envelope of the building
- The shower must be fitted with a Thermostatic Mixing Valve
- Keep the distance from the bath or shower tray waste water trap to the RECOUP Easyfit+ to within 3m where practically possible. This maintains a high level of efficiency by minimising heat loss in the drainage system prior to the WWHRs.
- The Preheated water supply from the RECOUP Easyfit+ to the shower cold water inlet and water heater must be: -
 - Insulated in accordance with the 'Building Services Compliance Guide'.
DO NOT INSULATE THE ACTUAL RECOUP EASYFIT+
 - Labelled to prevent any future connection of hot water take-off points (E.g. Taps).
- Prevent the RECOUP Easyfit+ being heated above 25°C by both external sources and from ambient temperature.
- If shut-off valves are specified they should be 'full-flow (non-restricting) shut-off valves.
- Approved document – Part H of the Building Regulations has been consulted and an appropriate method for preventing the ingress of foul sewer smells chosen.

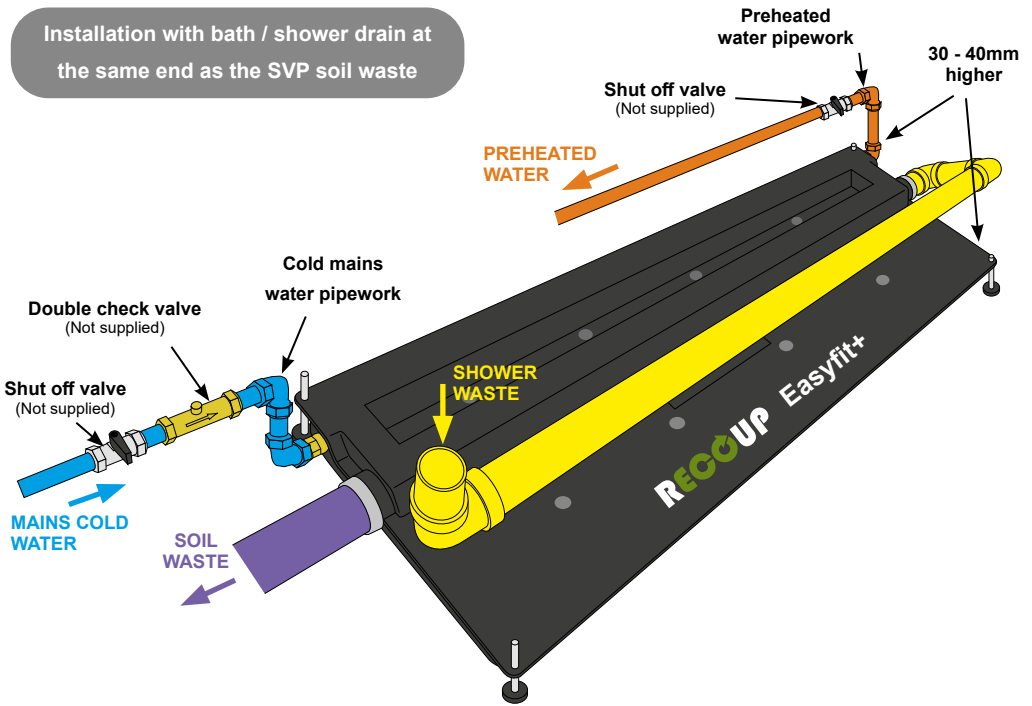
4. Installation of the RECOUP Easyfit+

Check section 3.c) for guidance on locating a suitable area for installation.

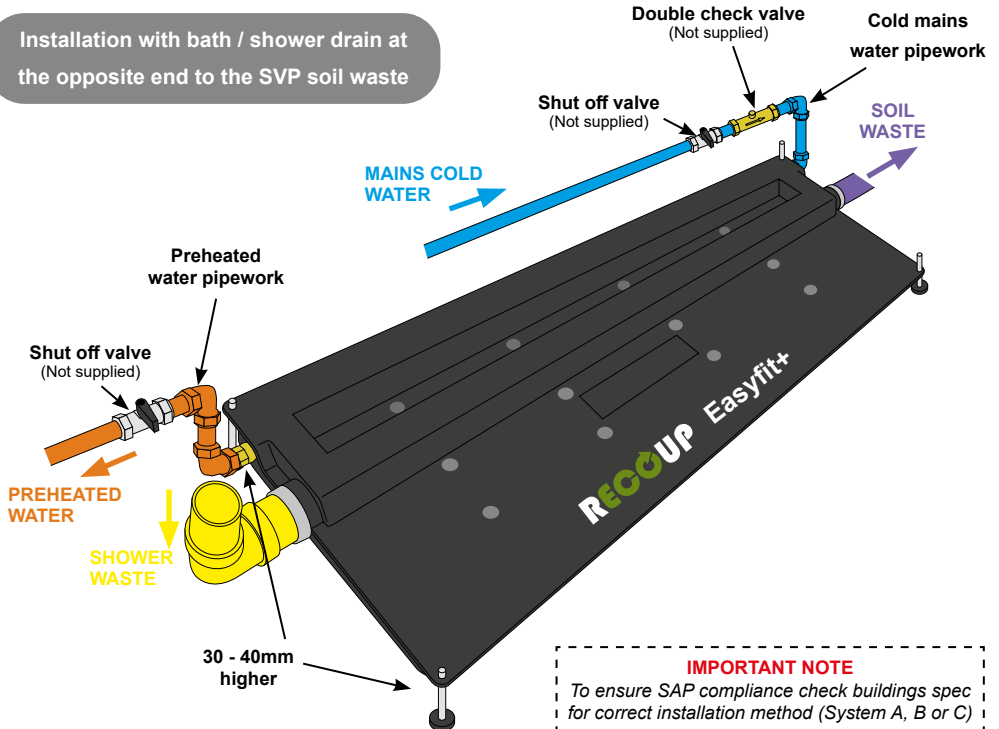
Installation contents



Installation with bath / shower drain at the same end as the SVP soil waste



Installation with bath / shower drain at the opposite end to the SVP soil waste



IMPORTANT NOTE
To ensure SAP compliance check buildings spec for correct installation method (System A, B or C)

Installation process overview

While every effort is made to ensure this product arrives in optimum condition, we request that before installing the RECOUP Easyfit+, visually inspect the packaging and contents for obvious signs of damage.

The unit must be installed on a suitable flat surface capable of supporting the RECOUP Easyfit+ below the bath or shower tray.

1. Ensure that there is adequate clear space below the bath or shower tray to install the RECOUP Easyfit+. Some bath and shower tray designs incorporate a central foot to provide support which may need to be removed. If removed, then alternative raised support should be added over the RECOUP Easyfit+.
2. The RECOUP Easyfit+ incorporates symmetrical connections at each end, allowing the shower waste to be connected to either end. The mains cold inlet should always be the opposite end to the shower waste inlet, producing a counter flow connection.
3. Position the RECOUP Easyfit+ below the bath or shower tray and adjust the feet height so that the unit is 30-40mm higher at the end the shower waste enters the unit, allowing flow of the waste water through the unit. See diagrams and drawings for positioning in relation to the bath / shower drain and SVP.
4. Ensure that the RECOUP Easyfit+ is precisely horizontal perpendicular to the direction of shower waste flow. Incorrect raising, perpendicular levelling and flow directions will affect performance and efficiency.
5. Connect the bath / shower drain trap to the shower waste water in, highest end, of the RECOUP Easyfit+ and the waste water out, lower end, to the SVP soil pipe. Use UK 43mm solvent or 40mm push-fit pipe and connections. **Note: The bath / shower trap should remain in its usual position.**
6. Connect the mains cold water and preheated water pipework. The mains cold connects at the lower end and the preheated to the higher end. For connection to the water supply, ensure a 1/2" Female BSP x 15mm connection is used (Not supplied). A reducer could also be used to connect to a 22mm pipe.
7. A double check valve with full flow shut off valve should be installed (Not supplied) on the mains cold water supply prior to the WWHRS unit and another full flow shut off valve installed close to the connection for the preheated water leaving the WWHRS to facilitate any replacement of parts.
8. Check and complete the following:
 - a) Ensure the preheated water supply is only feeding the DHW water heater and the cold water inlet of the shower's thermostatic mixing valve (System A), the cold inlet of the shower's thermostatic mixing valve only (System B) or the water heater only (System C).
 - b) The preheated water supply from the RECOUP Easyfit+ is clearly labelled to avoid future connections of other services. Preheat supply tape is available for this.
 - c) Pipework between the RECOUP Easyfit+ and the water heater and/or cold water inlet of the thermostatic mixing valve is insulated.
 - d) When the complete system is being checked and pressure tested, the RECOUP Easyfit+ must be isolated if the system testing is to proceed above 10 bar.
 - e) Ensure the SAP label supplied correctly identifies the System installed and is applied near to the water heater in the property (Part 3).
 - f) Register the installation (Section 8) to generate the installation / warranty certificate.



Preheat supply tape
(Not supplied)

3

	HOW SAP IDENTIFIER <small>Water Heating Recovery System</small>	RECOUP <small>Water Heating Recovery System</small>	<small>Recovering hot water in the UK for the first time</small>
	Serial Number:	SN	Water Heater Recovery System
	Technology type:	Technology category:	WaterHeater Recovery System
	Brand name:	Model number:	System A / System B / System C

Water heater SAP Identifier label



Visit the RECOUP Easyfit+ product page on our website for more installation support. Visit easyfit.recoup.co.uk or scan this QR code.

For all technical or installation queries, please contact RECOUP directly. For product related issues, please contact your place of purchase.

IMPORTANT NOTE

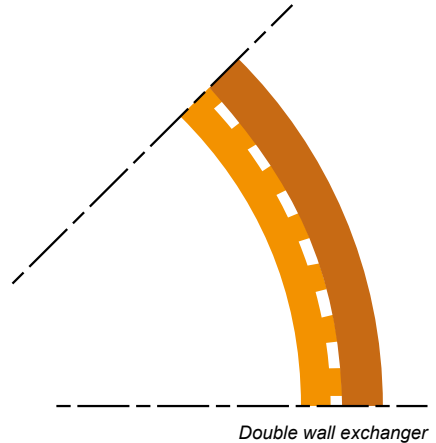
This document should be left with the home owners pack.

5. Water Safety, Legionella Risk & Protection

5.a) Double Walled Heat Exchanger

European regulations (EN 1717) require that double walls must be used to separate drain water and drinking water. In the RECOUP Easyfit+, this is accomplished by squeezing two copper pipes against each other. This creates a very sturdy and reliable construction, in which the contact between the pipes does not depend on the water pressure. The design meets all the relevant safety requirements, and therefore does not require the trap to be moved from its usual position below the shower or bath.

The RECOUP Easyfit+ should be protected against return flow through a verifiable double check valve plus shut-off valve. It is permissible to connect the system directly to the SVP as shown in Section 4.



5.b) Legionella

Consideration must be given to the potential risks of legionella bacteria growth when installing any hot or cold water system and this includes ALL devices that are used in the production and transportation of hot or cold water in the domestic home or commercial environment. Please refer to the following information provided covering Legionella.

5.c) Legionella Risk & Protection when installing a RECOUP WWHRS product

Care and attention must be paid to the system design to protect against the potential risk of Legionella growth within the hot and cold water system with or without a WWHRS unit being installed. The guidance below is to highlight the potential risks that installation of a WWHRS can have on the hot & cold water supply within a property, but due to the variations in design in properties a final risk assessment needs to be carried out by the system designer and installer.

The following guidance is provided to keep the risk to a smaller level as possible, with general and specific guidance depending on the System of installation (A, B or C). Within the UK, there is no specific guidance on Legionella control within the domestic home, but the document known as HSG 274 and written for Health and Safety guidance in the work place, does in Part 2 offer guidance on the control of Legionella in water systems, some of which is aimed at recirculating hot water systems, but never the less offers good advice. The World Health Organisation (WHO) have also published a document (Last version 2007) titled 'Legionella and the prevention of Legionellosis', however, this is for information purposes only.

General guidance

For best practice the pipework between the WWHRS and the cold mixer on the shower and the boiler/hot water cylinder should be copper, as this is a material that is less susceptible to the formation of biofilm, which is a known factor in the growth of Legionella bacteria. However, if plastic / PVC plumbing has been considered suitable for the property by the installer/designer then an onsite risk assessment should be carried out to ensure the risk is minimal. If products do require flexible hoses instead of copper pipe then these must be PEX and never EPDM

It is always recommended to clean any TMV at least once every 6 months to remove the build-up of any contamination.

Showers in general can be a problem area for Legionella growth in the domestic home, and L8 recommends that shower heads are dismantled quarterly or as necessary to clean and descale them and the hoses.

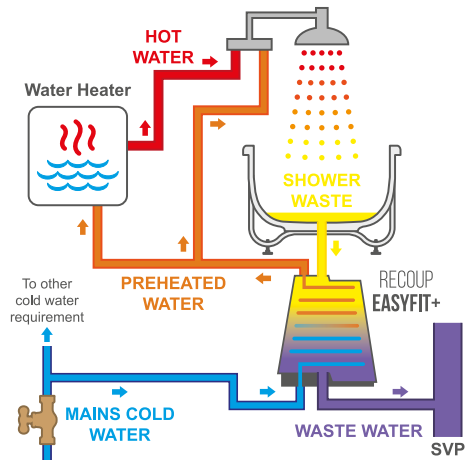
The frequency that domestic showers are used in the home means that the system is flushed on a high number of occasions per week, which in itself helps in prevention of Legionella bacteria growth. It should be remembered that after any dormant periods (HSG 274 Part 2 recommends weekly flushing is acceptable as long as a risk assessment does not identify a susceptible population), it is good practice for a shower (With or without a WWHRS fitted) to be slowly flushed taking care not to create an aerosol, either by unscrewing the shower head or covering the shower head with a plastic bag and allowed to run for 3 minutes to introduce fresh water into the system. The hose on a shower from the TMV to a shower head will contain a mixture of cold and hot water, and the warming of the cold water brings it into the optimum temperature range for Legionella growth (TMV is set by the user between 36°C and 41°C). This water will cool down in time and in the domestic home be flushed through on a near daily basis, but it still introduces a risk.

System A – Delivery of preheated water to a water heater (Cylinder, combi-boiler, HIU) and the cold mixer on the TMV

If the water heater being installed is a hot water cylinder that will raise the temperature to 60°C for a period longer than 10 minutes, then the distance of pipe from the WWHRS to the cylinder doesn't matter with regard to Legionella, as the preheated water in the pipe will on entering the cylinder be raised to sufficient temperature to kill any bacteria (Note: that for energy efficiency this distance should still be kept to a minimum).

If a combination boiler or HIU (Heat Interface Unit) is being used then it should be capable of heating the preheated water to 60°C and holding it at that temperature for greater than 10 minutes, so any potential growth within stagnant pre-heated water from the previous shower is raised to a level where the Legionella bacteria can be killed. Any water heater used in the domestic home that does not raise hot water above 60°C for this period of time is introducing the same level of risk to the system (With or without a WWHRS), and these risks need to be assessed in terms of the level and frequency of usage, and whether the device is used for stored or instantaneous hot water.

SYSTEM A



For System A there is also a feed of the pre-heated water straight to the cold inlet of the TMV. Regardless of the water heater that is installed in the installation, the pre-heated water (25°C) that remains between the WWHRS and the TMV will not be re-heated, so can never pass a temperature of 60°C, and therefore introduces the same level of risk to the system as any instantaneous water heater that does not achieve 60°C would do. HSG 274 Part 2 recommends that all cold water supplies should be kept to 20°C or below, however, it does note that the Water Supply (Water Quality) Regulations do permit water utilities to supply water to premises at temperatures up to 25°C, but due to the climate in the UK this is not likely, except in summer. Table 3: Monitoring the temperature control regime, of HSG 274 Part 2 states that the standard to meet for cold water on a monthly basis is that a temperature of below 20°C should be reached after running the water for up to 2 minutes. Therefore, it is suggested that the pipe run from the WWHRS to the cold inlet of the TMV is kept as short as possible, and no greater than 4.75 meters.

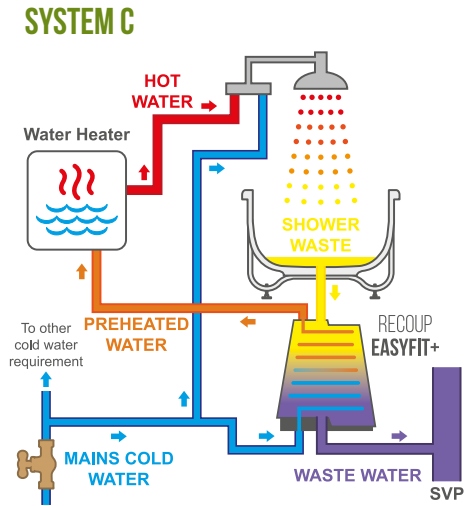
Users of the shower could additionally run the shower for 15 seconds after showering on the cold setting of the TMV to flush through the remaining pre-heated water. As mentioned in the general section, the regular use of showers in the domestic home means flushing happens on a regular occasion, however, prior to periods of non-use (E.g. Holiday), this practice would be advisable.

System C Installation – Feed to water heater only

This is the lowest risk of all the installation methods.

If the water heater being installed is a hot water cylinder that will raise the temperature to 60°C for greater than 10 minutes, then the distance of pipe from the WWHRS to the cylinder doesn't matter with regard to Legionella, as the preheated water in the pipe will on entering the cylinder be raised to sufficient temperature to kill any bacteria (Note: that for energy efficiency this distance should still be kept to a minimum).

If a combination boiler or HIU (Heat Interface Unit) is being used then it should be capable of heating the preheated water to 60°C and holding it at that temperature for greater than 10 minutes, so any potential growth within stagnant pre-heated water from the previous shower is raised to a level where the Legionella bacteria can be killed. Any water heater used in the domestic home that does not raise hot water above 60°C for this period of time is introducing the same level of risk to the system (With or without a WWHRS), and these risks need to be assessed in terms of the level and frequency of usage, and whether the device is used for stored or instantaneous hot water.



6. Maintenance

The maintenance required for the RECOUP Easyfit+ is very minimal, however, it is recommended to clean the unit periodically to avoid any reduction in efficiency. This cleaning will remove any build-up of soap and dirt residue on the outside of the copper pipe where the waste water passes.

The following maintenance procedure is suggested:

A hair filtering device as part of the bath / shower trap is recommended to reduce the amount of hair that gets into the RECOUP Easyfit+.

Every 2 months, use 1-2 litres of hot water up to 70°C (re-use waste water from boiling potatoes or pasta to save energy) and apply into the bath / shower-tray drain in 2 stages, with around 5 minutes between. (This will help dissolve soap residues on the copper pipes in the RECOUP Easyfit+). Use the shower shortly after to make sure any debris is flushed away. It is possible to use chemical agents sold for declogging as a cleaning agent if required.

If no maintenance is carried out, the RECOUP Easyfit+ will work, but the efficiency may decrease over time.

7. Warranty

The RECOUP Easyfit+ comes with a 5 year warranty. This starts from either the date of invoice from Recoup Energy Solutions Ltd or the date of installation recorded on the received SAP documentation in line with Installation and SAP Registration.

This warranty is conditional on the product being installed in accordance with these instructions (Installation and ALL requirements for SAP, if product is to be recognised for Energy efficiency calculations), correct plumbing practices and Building Regulations.

8. Registration

Please register this installation for SAP and guarantee. See the accompanying SAP identifier and installation registration document for further details.

WASTE WATER HEAT RECOVERY FOR SHOWERS

PLEASE REGISTER THIS INSTALLATION

The installation of this WWHRs should be registered for SAP and guarantee requirements.

Visit our website registration page
REGISTRATION.RECOUP.CO.UK
or scan the QR code.



RECOUP EASYFIT+ IS **100% RECYCLABLE** AT END OF LIFE

Visit our website recycling page for more information

RECYCLE.RECOUP.CO.UK

Recoup Energy Solutions Ltd, PO Box 365, IP22 9BH

T: 01379 844010

E: TECHNICAL@RECOUP.CO.UK

W: RECOUP.CO.UK



EASYFIT+ SAP IDENTIFIER LABEL & INSTALLATION REGISTRATION

SAP IDENTIFIER LABEL

As detailed in the accompanying RECOUP Easyfit+ instructions, this peel-out label should be completed with the serial number and amended under model qualifier to correctly identify the system installation method installed. Write on the serial number and delete the two incorrect system types.

Cut line

 EASYFIT+ Horizontal Shower Waste Water Heat Recovery Unit	 Certificate No: 1806308	NCM (SAP) IDENTIFIER	RECOUP Easyfit+	Recoup Energy Solutions Ltd, PO Box 365, Eye, IP22 9BH
		Serial Number: Technology type: Technology category: Brand name: Model qualifier:	SN: Waste Water Heat Recovery System Instantaneous Shower Heat Recovery RECOUP System A / System B / System C (Delete as appropriate)	
This dwelling has been fitted with a Waste Water Heat Recovery System for Showers which is recognised by the Government's Standard Assessment Procedure (SAP) for energy rating of dwellings. Note: One label must be permanently fixed to the WWHRS unit and another to a nearby Boiler or Service Cupboard.				
<p style="text-align: center;"> PLEASE REGISTER for SAP and guarantee requirements. Visit our website registration page registration.recoup.co.uk END OF LIFE 100% product recycling available. Visit recycle.recoup.co.uk </p>				

The serial number is on the label attached to the RECOUP Easyfit+. Once complete, peel out the label and apply it on or next to the water heater in the property. This process forms an important part of the SAP requirements for waste water heat recovery.

PLEASE REGISTER THIS INSTALLATION

INSTALLATION REGISTRATION

The installation of the RECOUP Easyfit+ WWHRS should be registered for SAP and guarantee requirements. Registration can be completed by submitting an online installation registration form. Visit registration.recoup.co.uk or scan the QR code to access the form.



Once submitted you will receive your installation registration certificate by email.

Visit our website registration page or scan the QR code

REGISTRATION.RECOUP.CO.UK