

Installation and Maintenance Manual

Waste Water Heat Recovery Unit

Assure Horizontal SHR Unit

These instructions are to be left with the user. The Assure Horizontal SHR Unit should only be installed by a competent plumber who has the expertise to be guided by this manual. Please read the entire manual before commencing the installation process.

Contents

1. Introduction	3
2. Product Technical Data	4
2.1. Dimensions	4
2.2. Technical Specifications	4
3. Pre-installation Requirements	5
3.1. Principle of Operation	5
3.2 Installation Configuration	5
3.3. Requirements for Recognition within SAP Calculations	6
3.3.1. Dwelling Evaluation	6
3.3.2. Drainage Connections	6
3.3.3. Plumbing Connections	7
3.3.4. Installation Location	7
4. Installation	8
4.1. Package Contents	8
4.2. Installation Procedure	9
4.2.1 Installation - Method 1	10
4.2.2 Installation - Method 2	12
5. Maintenance	14
6. Warranty	14
7. Safety	15
7.1. Tested for Drinking Water Consumption	15
7.2. Legionella Prevention	15

1. INTRODUCTION

Thank you for purchasing the Assure Horizontal SHRU.

This unit allows the heat contained in the shower or bath waste water to be recovered and transfers this heat to the cold water before it goes to the shower mixer tap and/or water heater device.

There is no contact between the water supply and the drain water.

The transfer of heat is achieved through a double-walled copper heat exchanger in accordance with the regulations EN 1717.

When utilizing the Assure Horizontal SHRU, the cold water feeding into the mixer valve or heater device is pre-heated to approximately 20 - 25°C, an increase of approximately 15°C (depending on the type of configuration and flow of the shower). The result is a significant energy saving.

IMPORTANT!

Please note that this manual contains important information, read it carefully before starting the installation or use of the product.

- Installation and associated work on this equipment must be carried out by a competent professional.
- Non-compliance with the recommendations for installation and use may void any warranty.
- Keep this manual in a safe place for easy reference when required throughout the life of the product.
- This product does not have a waste trap. It is a requirement of the installation to fit an in line trap upstream from the product itself.

NCM/SAP recognition

For the recognition of the Assure Horizontal SHRU energy saving performance within the National Calculation Method (NCM) for energy rating of dwellings known as SAP (Standard Assessment Procedure) it is vital to comply with the following:

- a) This instruction manual
- b) The System Design Checklist
- c) The Installation Checklist
- d) The Certificate of Installation

b, c & d are supplied as a single document and are available at: www.ncm-pcdb.or-g.uk/sap (under 'Technical Documents'). A signed copy of each should:

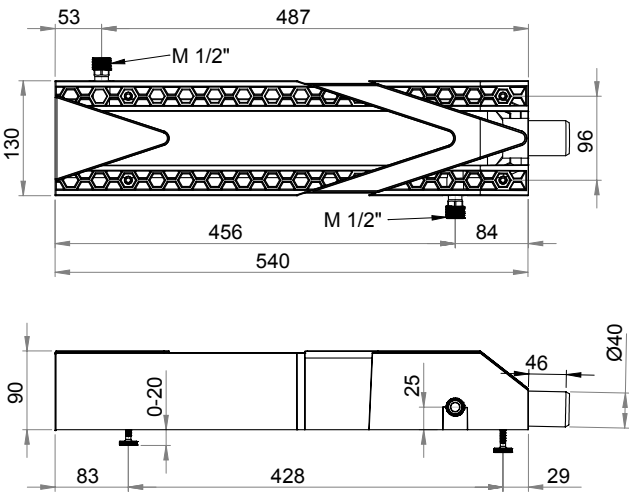
1. Be left with the user pack
2. Retained by the installer
3. A copy sent to Baxi (See company details on Page 16).

(Note: Building control officers may also request a copy)

A NCM (SAP) identifier label is permanently fixed to the Assure Horizontal SHRU unit and a second label attached to a nearby boiler or service cupboard. The 'model qualifier' denotes the system installation configuration System A, B or C. For the permanent label, the model qualifier will state "Refer to installation certificate, if unknown assume System B". The actual system configuration will be recorded on the system design checklist, installation checklist/ certificate of installation and the second NCM (SAP) identifier label.

2. PRODUCT TECHNICAL DATA

2.1. Dimensions (in millimetres)



2.2. Technical Specification

Description	Unit	Value
Heat exchanger material	-	copper
Body material	-	ABS
Weight	kg	5.0
Temperature range	°C	0 - 60
Maximum shower flow	L/min	25.0
Maximum mains water inlet pressure	Bar	6.0
Heat exchanger pressure drop at 9.2 L/min — mains water	Bar	0.36
Heat exchanger pressure drop at 12.5 L/min — mains water	Bar	0.65

3. PRE-INSTALLATION REQUIREMENTS

3.1. Principle of Operation

The Assure Horizontal SHRU is a Waste Water Heat Recovery Unit (WWHRU).

The Assure Horizontal SHRU recovers the heat contained in the shower/bath drain water and transfers this heat to the cold mains water prior to reaching the shower mixer tap and/or Domestic Hot Water heater (DHW). The DHW heater could be a combination boiler, an unvented cylinder, a heat interface unit on a district heating scheme* or a thermal store.*

(*) mains pressure DHW delivery

3.2. Installation Configuration

The Assure Horizontal SHRU must be located horizontally on a suitable base below the shower/bath, with the desired separation.

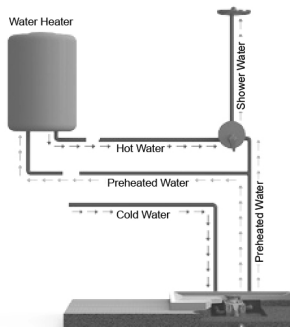
The mains cold water is connected to the Assure Horizontal SHRU inlet and the preheated water from the Assure Horizontal SHRU is connected in one of the following 3 configurations

System A: To the shower mixing valve (mains cold water) inlet and the DHW heater inlet. This will provide the maximum amount of recovered energy.

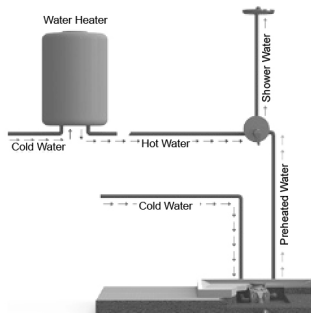
System B: To the shower mixing valve (mains cold water) inlet ONLY. We recommend this configuration if the connection to the DHW heater involves too much work or it is too far.

System C: To the DHW heater inlet ONLY.

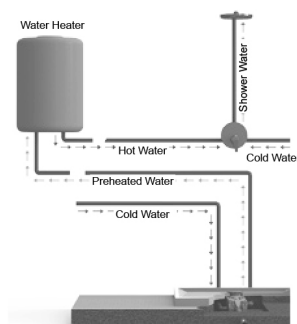
SAP calculation recognises the performances of Systems A, B & C. System A will provide the highest efficiencies (see section 2.3 for different system performances). Note kWh calculations are estimates and are not calculated by SAP.



System A Configuration



System B Configuration



System C Configuration

3.3. Requirements for Recognition within SAP Calculations

3.3.1. Dwelling Evaluation

The following dwelling requirements must be satisfied in order for the WWHRS to be recognised in SAP calculations:

- Supply water pressure and flow rate must be sufficient to ensure satisfactory DHW performance after installation of the Assure Horizontal SHRU.
- The domestic hot water system (DHW) must be a mains pressure system;
- If not installed in System B configuration, the DHW heater must accept a pre-heated water inlet (Max. 30°C).
- The shower(s) must use a thermostatic mixing valves.
- The Assure Horizontal SHRU must be installed within the dwelling heated envelope.

NOTE: Whilst the Assure Horizontal SHRU can be connected to instantaneous electric showers, such combinations are not recognised in SAP calculations.

3.3.2. Drainage Connections

The length of the drain pipe between the shower and the Assure Horizontal SHRU must be minimised, preferably to less than 3 metres.

With reference to Approved Document – Part H (2002) of the Building Regulations, an appropriate method for preventing the ingress of foul sewer gases as a result of the WWHRS installation must be devised. An aeration valve is not required.

3.3.3. Plumbing Connections

The pipework between the Assure Horizontal SHRU preheated water outlet and the water heater and/or shower cold water inlet(s) (depending on installation configuration) must be:

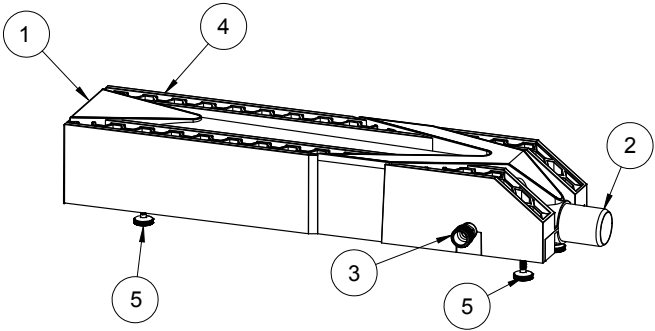
- Labelled to indicate that no other services can be interconnected, to prevent the future connection of any other service points, such as taps.
- Insulated in accordance with the specification for DHW primary circulation pipes defined in 'Domestic Building Services Compliance Guide - 2013 Edition'.
- The WWHRS preheated water outlet is only connected to the water heater and shower cold water inlet(s), but not any other service points, such as taps.
- If shut-off valves are specified for the Assure Horizontal SHRU inlet and/or outlet, they must be of the 'full flow' (non-restricting) type.

3.3.4. Installation Location

The location must allow access to all parts and easily allow any maintenance, such as cleaning. The installation location for the Assure Horizontal SHRU should not normally exceed 25°C. The Assure Horizontal SHRU installation should ensure compliance with Approved Document Part H (2002) of the Building Regulations.

4. INSTALLATION

4.1. Package contents

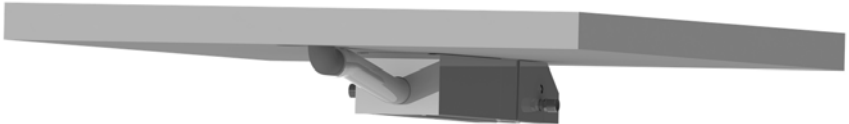


N°	Description	Material	Connection	Quantity
1	Shower/bath drain water input connection	ABS	Ø40mm Female	1
2	Shower/bath drain water output connection	PVC	Ø40mm Male	1
3	Mains water input connection	Brass	1/2" Male	1
4	Mains water output connection	Brass	1/2" Male	1
5	Adjustable foot	Steel/Plastic	-	4

4.2 TWO METHODS OF INSTALLATION

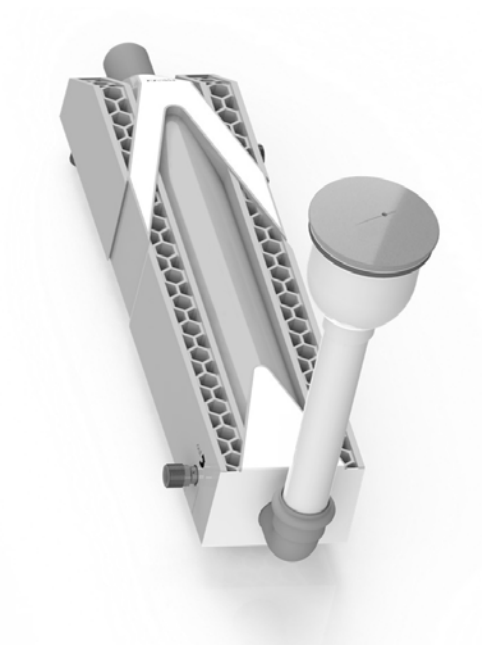
4.2.1 Installation above the slab / coupled to the shower tray.

Page 10-11



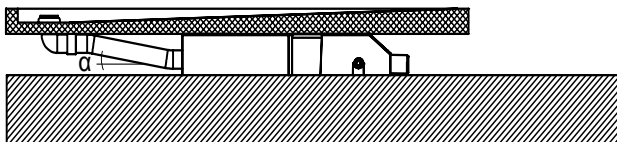
4.2.2 Installation under the slab / under the shower tray or bathtub with desired separation.

Page 12-14

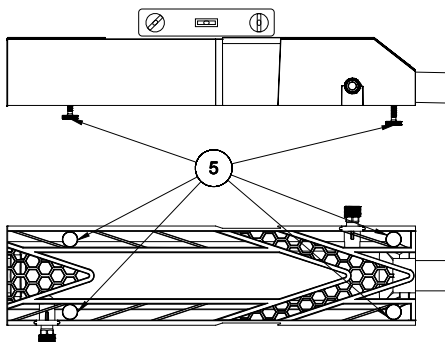


4.2.1 INSTALLATION - METHOD 1

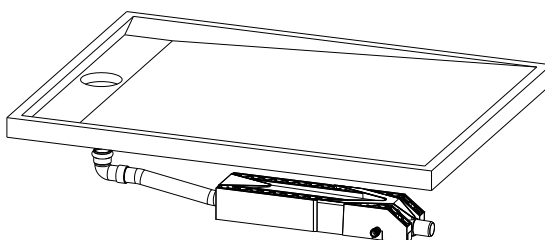
- 1 Always ensure that the pipe connecting the drain and Assure Horizontal SHRU has an inclination (α) between 1% and 2%.



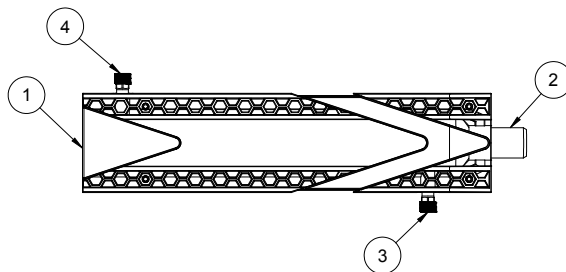
- 2 Using a spirit level and the adjustable feet (5), adjust the unit's height and position it horizontally in its final location. The internal bore of the Assure Horizontal SHRU already has a slope of 2% to ensure the correct flow of waste water from the shower.



- 3 Put the shower tray over the Assure Horizontal SHRU and align it. Remove the tray for implementing the next steps.

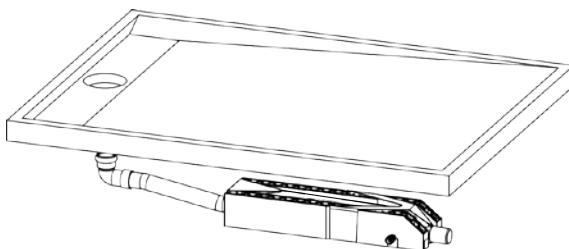


- 4 Connect the mains cold water to the unit's inlet (3), and preheated water outlet (4) from the unit to the cold side of the shower mixer tap and/or domestic water heater (depending on installation configuration). Use both of the provided Male 1/2" fittings and proceed to seal in accordance with best plumbing practices. Connect the Assure Horizontal SHRU drain water outlet (2) to the drain pipe.



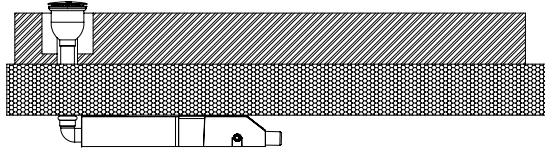
- 5 We recommend that the installer performs a leak test on the mains water circuit and on the drain water circuit to ensure the integrity of the inlet and outlet connections.

- 6 Assemble the waste trap and shower tray.

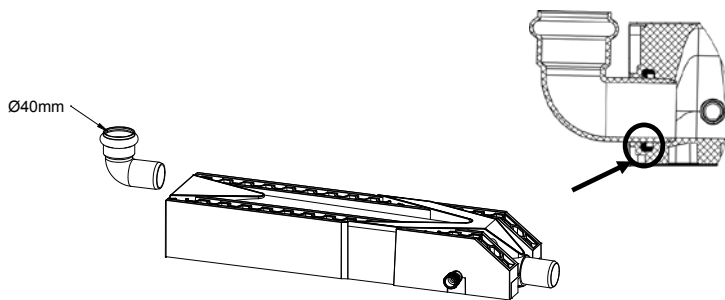


4.2.2 INSTALLATION - METHOD 2

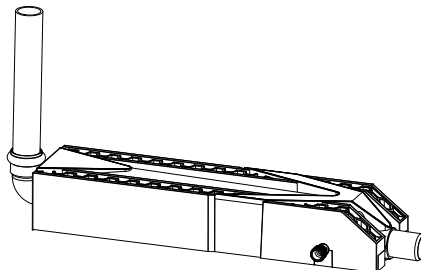
- 1 Ensure that there is enough space for an easy installation of Assure Horizontal SHRU.



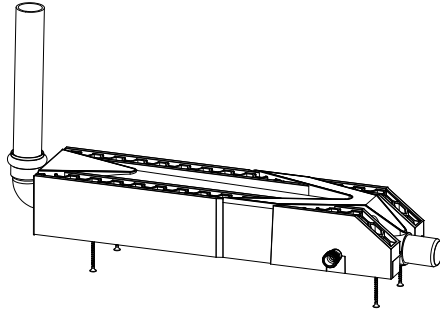
- 2 Install a 90° elbow Ø40mm. Ensure that elbow is fully inserted past the seal in the unit.



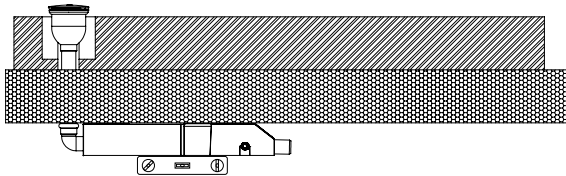
- 3 If necessary, use a section of appropriately rated PVC of the desired length.



- 4 Using suitable screws, fix the Assure Horizontal SHRU to the slab.

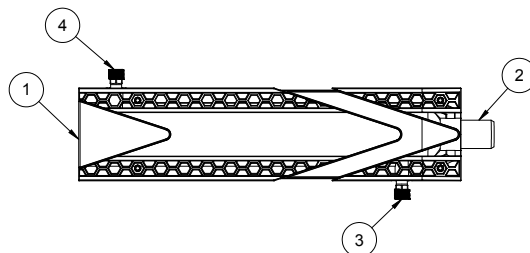


- 5 Make sure that the unit is installed horizontally. The internal bore of the Assure Horizontal SHRU already has a slope of 2% to ensure the correct flow of waste water from the shower.



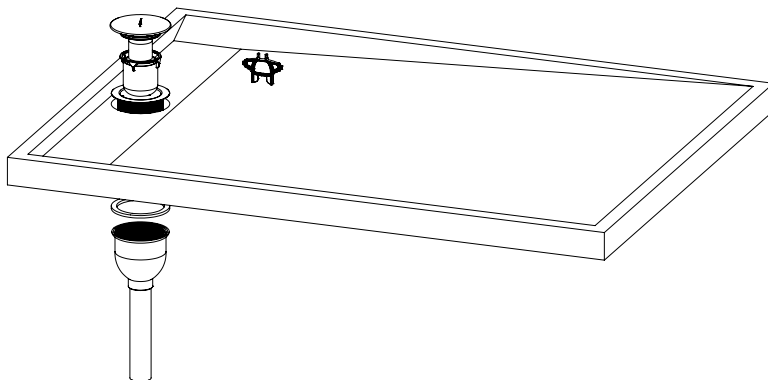
- 6 Connect the mains cold water to the unit's inlet (3), and preheated water outlet (4) from the unit to the cold side of the shower mixer tap and/or domestic water heater (depending on installation configuration). Use both of the provided male 1/2" fittings and proceed to seal in accordance with best plumbing practice.

Connect the Assure Horizontal SHRU drain water outlet (2) to the drain pipe.



7 We recommend that the installer performs a leak test on the mains water circuit and on the drain water circuit to ensure the integrity of the inlet and outlet connections.

8 Install the shower tray and the shower waste trap.



5. MAINTENANCE

To assist with maintenance it is strongly recommended to install a waste trap before the Assure SHRU to prevent the ingress of material that may diminish the effectiveness of the unit.

The Assure Horizontal SHRU has been designed to require minimal maintenance other than regular cleaning of traps and filters removing all hair and dirt, thus preventing blockages.

To maintain efficiency it is recommend you periodically dissolve soap residue on the inside copper pipe with your usual drain cleaner and/or to clean the unit with a pipe cleaning brush and hot water

6. WARRANTY

The Assure Horizontal SHRU warranty is valid for 2 years after the installation date.

During the warranty period if the product has a defect in design, material or workmanship it should be returned to the place of purchase.

The warranty will be invalidated if product failures are caused by the following:

- Installed with cold inlet pressure above 6 bar.
- Use of the system without a waste trap.
- Inadequate cleaning of the waste trap.
- Installation of the Assure Horizontal SHRU not in accordance with these instructions..
- Unauthorized repairs and modifications.

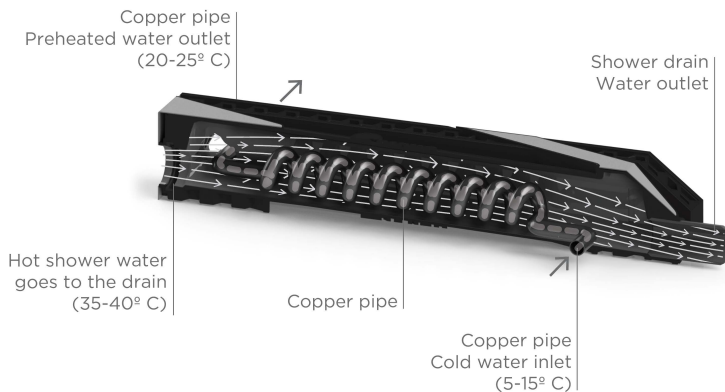
7. SAFETY

7.1. Tested for Drinking Water Consumption

The Assure Horizontal SHRU complies with the requirements of the United Kingdom Water Supply Regulations and Scottish Water Byelaws: Certificated by WRAS

European regulations EN 1717 ("Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow") require that double walls must be used to separate drain water and drinking water. The copper coil heat exchanger is made by squeezing two copper pipes against each other. This creates a very robust and consistent structure, in which the contact between the pipes does not depend on water pressure.

7.2. Legionella Prevention



The Assure Horizontal SHRU design also complies with the Directive Legionella Prevention:

- The unit has no dead spaces and is subject to high flow rates which prevent water from stagnation.
- Drain water does not remain in the unit for long periods of time since the construction guarantees that it is fully drained after the shower is turned off.
- After showering, fresh water cools down below 25°C, as recommended by the WHO.
- The Assure Horizontal SHRU is always installed relatively close to the shower mixer which minimizes the distance between the unit and waste trap.
- The copper coil itself contributes to reducing Legionella-related risks.

Baxi Customer Support



0344 871 1545



Baxi
Brooks House,
Coventry Road,
Warwick, CV34 4LL



baxi.co.uk

e&oe

All descriptions and illustrations provided in this document have been carefully prepared but we reserve the right to make changes and improvements in our products which may affect the accuracy of the information contained in this leaflet. All goods are sold subject to our standard Conditions of Sale which are available on request.

7775228-01 (12/20)