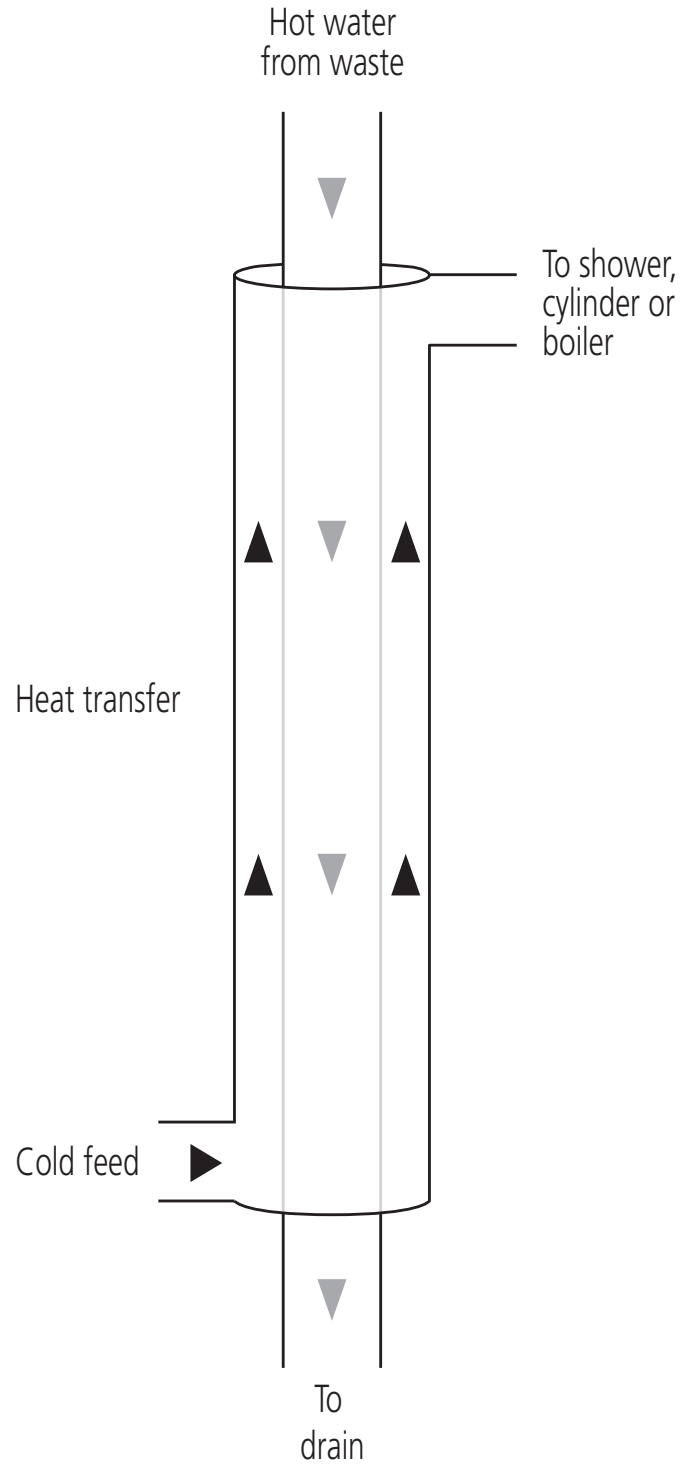




MEGAFLO **SHRU**

Technical data



FOR THE ULTIMATE IN HOT WATER PERFORMANCE AND COMFORT



MEGAFLO **SHRU**

Technical data

COMPONENTS

THE FOLLOWING COMPONENTS ARE SUPPLIED AS STANDARD WITH MEGAFLO **SHRU**

MEGAFLO **SHRU** BODY

½" BSP COMPRESSION FITTINGS AND WASHER (2 off)

1½" BSP – ISO ADAPTOR AND WASHER (2 off)

1½" STRAIGHT CONNECTOR MULTIFIT x BSP COUPLING (2 off)

T-FITTING Ø43mm SOLVENT WELD (FOR 43mm WASTE PIPE) + 43mm CAP AND CONNECTION TUBE

WALL MOUNTING BRACKETS, SCREWS AND 10mm WALL PLUGS (3 off)

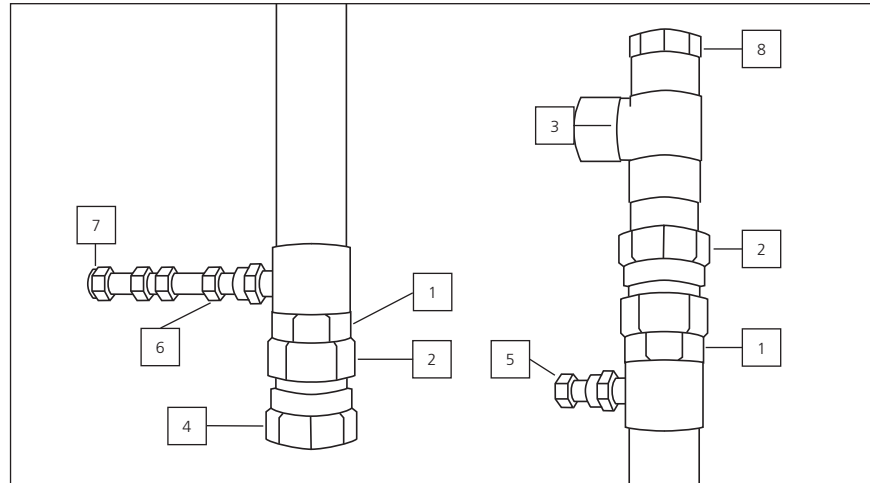
15mm CHECK VALVE ASSEMBLY (COLD DOMESTIC MAINS WATER INLET)

50mm LENGTH Ø15mm COPPER TUBE

In addition to the above it is recommended two full flow 15mm shut off valves are obtained for the installation to enable isolation of the mains water circuit if any replacement is required.

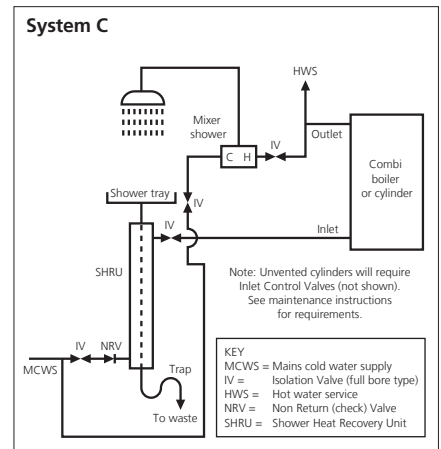
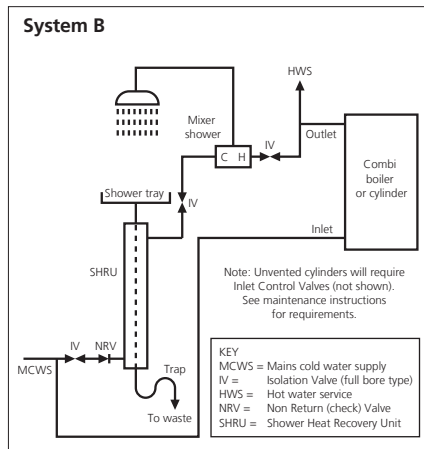
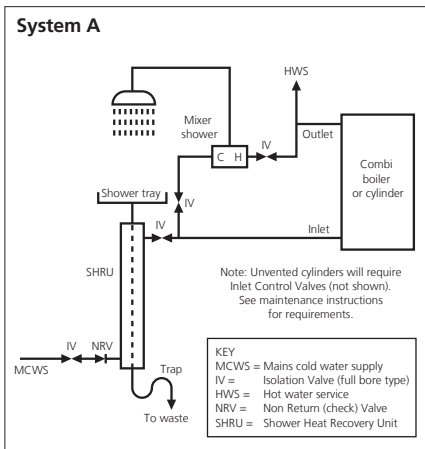
TECHNICAL SPECIFICATION

Description	Unit	Value
Overall length without fittings	mm	2060
Overall length including compression fittings and T-piece with cap insert	mm	2375
Outside diameter of external tube	mm	42
Material internal tube	-	copper
Material external tube	-	copper
Recommended shower flow rate range	L/m	5.8 to 12.5
Max. mains water inlet pressure	bar	10
Min. mains water pressure	bar	0.1
Max. water working temperature	-	90
Mains water connections	mm	15
Waste water connections (compression fitting)	mm	43
Weight	kg	5
Water content – secondary	Litres	0.5



1	Waste outlet connection	1½ BSP -ISO adaptor
2	Waste outlet adaptor	1½ Straight connector multifit x BSP coupling
3	Shower waste in	43mm solvent weld connection
4	Shower waste out	Multifit compression fitting
5	Domestic mains water out	15mm compression x ½" BSP fitting (pre heated)
6	Domestic mains water in	15mm compression x ½" BSP fitting
7	Check valve assembly	15mm compression
8	T-Piece with cap insert	43mm solvent weld connection

The unit must be fitted by a suitably qualified installer in accordance with current building regulations. Please contact your local Building Control Body for further advice.



SAP BENEFITS

The MEGAFLO **SHRU** is classified as a Waste water Heat Recovery System (WWHRS) under the Government's Standard Assessment Procedure for Energy rating of Dwellings (SAP). It is listed in SAP Appendix Q and if installed in accordance with the criteria required will provide an energy efficiency benefit to the property.

To qualify for a SAP Appendix Q rating at least one of the showers fed via the MEGAFLO **SHRU** must be installed in accordance with the diagram SYSTEM A. If subsequent showers are also to be fed via the MEGAFLO **SHRU** these should be installed in accordance with diagram SYSTEM B. SYSTEM C is an acceptable plumbing arrangement, however, this is not covered by the SAP Appendix Q scheme.

MEGAFLO **SHRU** – INSTALLATION GUIDANCE

OUTLET / TERMINAL FITTINGS

The MEGAFLO **SHRU** is compatible with 43mm diameter plastic waste piping (for waste water connections) and 15mm diameter copper pipe (for mains water connections). Connection adaptor fittings are supplied (see page 3).

INSTALLATION REQUIREMENTS

The MEGAFLO **SHRU** is a shower Waste Water Heat Recovery System that recovers heat from the warm waste water when taking a shower. This recovered heat is used to pre-warm the mains cold water feed to a shower mixer valve and combi boiler or hot water storage cylinder.

For maximum efficiency and to qualify for a SAP Appendix Q rating the MEGAFLO **SHRU** must be installed in accordance with the diagram SYSTEM A. A system design checklist, an installation checklist and a Certificate of Installation must also be completed for the system to comply with SAP Appendix Q requirements.

Installation can also be carried out to diagrams SYSTEM B or C, however these do not qualify for SAP Appendix Q ratings unless used in conjunction with at least one shower installed as per SYSTEM A. These configurations will have a lower efficiency than SYSTEM A.

The unit must be installed vertically using the wall brackets supplied with the waste trap installed downstream of the MEGAFLO **SHRU**. No trap must be fitted directly under the shower tray. Installation should be in a location where it is accessible for routine maintenance and cleaning. It should not be installed where it is likely to be heated above 25°C by an external heat source or the ambient temperature is above 25°C.

The pre-heated water supply from the MEGAFLO **SHRU** to the shower mixer valve and either a combi boiler or hot water storage tank should be insulated in accordance with Building Regulation requirements. DO NOT insulate the MEGAFLO **SHRU** itself.

Installation must be carried out in accordance with the appropriate Building Regulations and Water Regulations. The MEGAFLO **SHRU** must be installed by a competent, suitably qualified installer.

WATER SUPPLY

It should be noted that the incoming mains water supply will be supplying both the hot and cold water requirements. It is recommended that the maximum water demand is assessed and the water supply checked to ensure demand can be met.

The mains water supply requirements for the MEGAFLO **SHRU** should be 0.01MPa (0.1 bar) minimum supply pressure, 1 MPa (10 bar) maximum supply pressure. The recommended shower flow rate range should be between 5.8 to 12.5 litres/minute.



MEGAFLO SHRU

Running Costs / Savings

Average price (pence /kWh) Gas	4.64
Each person showers in a week	4.9
Each person showers a day	0.7

Data from the Energy Savings Trust
www.energysavingtrust.org.uk/Energy-Saving-Trust/Our-calculations

Cost savings for showering on average 0.7 times per day for and average 6.5 minutes					
Shower without MEGAFLO SHRU					
Number of People	1	2	3	4	5
Number of Showers per year (0.7 per day X 365)	255.5	511	766.5	1022	1277.5
Shower time (minutes)	6.5	6.5	6.5	6.5	6.5
Energy consumption per shower (kW)	15.7	15.7	15.7	15.7	15.7
Energy consumption per shower (kWh)	1.70	1.70	1.70	1.70	1.70
Energy consumption for showering per year (kWh)	434.35	868.70	1303.05	1737.40	2171.75
Average price (£/kWh) Gas	0.0464	0.0464	0.0464	0.0464	0.0464
Cost Per Year for Showering (£)	20.15	40.31	60.46	80.62	100.77

Shower with MEGAFLO SHRU					
Number of People	1	2	3	4	5
Number of Showers per year (0.7 per day X 365)	255.5	511	766.5	1022	1277.5
Shower time (minutes)	6.5	6.5	6.5	6.5	6.5
Energy consumption per shower (kW)	6.25	6.25	6.25	6.25	6.25
Energy consumption per shower (kWh)	0.68	0.68	0.68	0.68	0.68
Energy consumption for showering per year (kWh)	173.74	347.48	521.22	694.96	868.70
Average price (£/kWh) Gas	0.0464	0.0464	0.0464	0.0464	0.0464
Cost Per Year for Showering (£)	8.06	16.12	24.18	32.25	40.31

Saving with MEGAFLO SHRU Per Year (£)	12.09	24.18	36.28	48.37	60.46
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Cost savings for showering on average 1 time per day for and average 10 minutes					
Shower without MEGAFLO SHRU					
Number of People	1	2	3	4	5
Number of Showers per year (1 per day X 365)	365	730	1095	1460	1825
Shower time (minutes)	10	10	10	10	10
Energy consumption per shower (kW)	15.7	15.7	15.7	15.7	15.7
Energy consumption per shower (kWh)	2.62	2.62	2.62	2.62	2.62
Energy consumption for showering per year (kWh)	956.30	1912.60	2868.90	3825.20	4781.50
Average price (£/kWh) Gas	0.0464	0.0464	0.0464	0.0464	0.0464
Cost Per Year for Showering (£)	44.37	88.74	133.12	177.49	221.86

Shower with MEGAFLO SHRU					
Number of People	1	2	3	4	5
Number of Showers per year (1 per day X 365)	365	730	1095	1460	1825
Shower time (minutes)	10	10	10	10	10
Energy consumption per shower (kW)	6.25	6.25	6.25	6.25	6.25
Energy consumption per shower (kWh)	1.04	1.04	1.04	1.04	1.04
Energy consumption for showering per year (kWh)	379.60	759.20	1138.80	1518.40	1898.00
Average price (£/kWh) Gas	0.0464	0.0464	0.0464	0.0464	0.0464
Cost Per Year for Showering (£)	17.61	35.23	52.84	70.45	88.07

Saving with MEGAFLO SHRU Per Year (£)	26.76	53.52	80.28	107.04	133.79
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Shower flow rate					
		5.5 l/m	7.5 l/m	10.5 l/m	15.1 l/m
Shower energy consumption	kW	11.5	15.7	21.9	31.6
Recovered energy	kW	7.3	9.45	12.7	16.9
Efficiency of recovery unit	%	63	60	58	53
Actual Shower energy consumption with MEGAFLO SHRU	kW	4.2	6.25	9.2	14.7

Kiwa – Gastec declaration according to NEN 5128 A1:2009. Published 1 May 2009



MEGAFLO SHRU

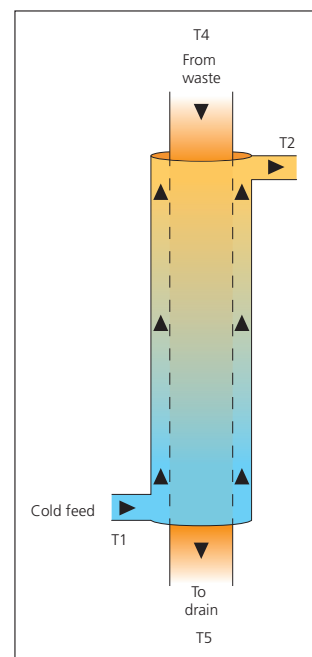
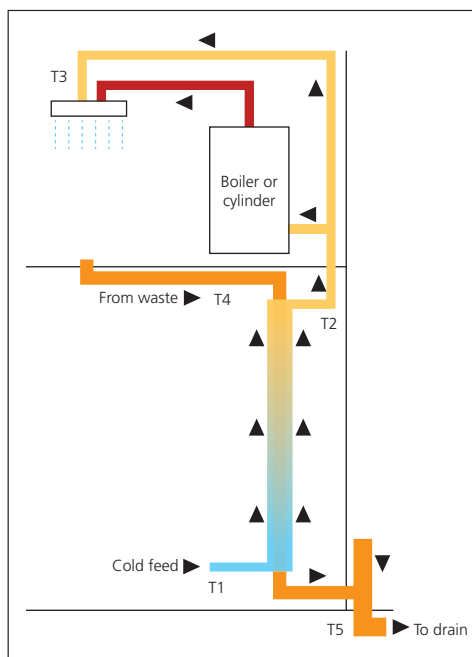
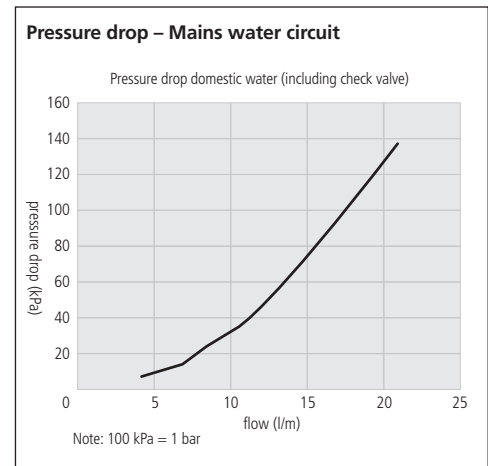
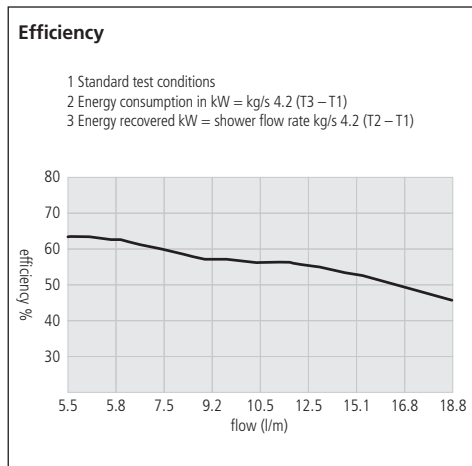
Performance

Waste water heat recovery systems are recognised within the SAP assessment process (see the WWHRS category of the SAP product database), When carrying out a SAP calculation for a home fitted with one or more MEGAFLO SHRU, the unit(s) will get you even closer to your overall dwelling target emission rating.

Independent CE approved tests revealed that occupants in a home fitted with an MEGAFLO SHRU WWHRS can enjoy energy savings comparable to those of solar thermal hot water systems.

Shower flow rate (l/m)	5.5	5.8	7.5	9.2	10.5	12.5	15.1
T1; cold domestic water in (°C)	10	-	10	-	10	-	10
T2; pre-heated domestic water out (°C)	29	-	28.2	-	27.4	-	25.2
T3; shower water (°C)	40	-	40	-	40	-	40
T4; shower water on entry on SHRU (°C)	40	-	40	-	40	-	40
T5; shower waste water to waste water line (°C)	21	-	22	-	23	-	24
Shower energy consumption (kW)	11.5	-	15.7	-	21.9	-	31.6
Recovered energy (kW)	7.3	-	9.45	-	12.7	-	16.9
Max. pressure drop domestic water (kPa)	9.6	-	21	-	35.1	-	79
Efficiency of recovery unit (%)	63	62.4	60	59.3	58	55.2	53

*Kiwa-Gastec declaration according to NEN 5128 A1:2009, published 1 May 2009





The MEGAFLO Shower Heat Recovery Unit (**SHRU**) is a waste water heat recovery system (WWHRS) that recovers heat from the warm waste water when taking a shower. It relies on the waste water from the shower flowing through a heat exchanger that pre-warms the mains cold water feed to a shower mixing valve and instantaneous boiler or hot water storage cylinder.

It is recommended that the pre-heated mains water from the unit is connected to both the cold water supply of the shower mixing valve and the combination boiler or hot water cylinder, as shown below (recommended System A configuration - as shown on page 4). System A configuration will provide a balanced water flow and is the most efficient way to recover the maximum amount of energy. In case of an unbalanced water flow if, for example, only the cold water supply to the shower mixer valve is pre-heated (System B configuration - as shown on page 4) or the pre-heated mains water from the unit is only connected to the combination boiler or hot water cylinder (System C configuration - as shown on page 4), the efficiency of the MEGAFLO **SHRU** will decrease by at least 15%.

The system should be installed by a suitably qualified plumber, with system design consideration being equally important to a correct installation. For recognition of the MEGAFLO **SHRU** within SAP, a system design checklist and an installation checklist and certificate of installation should be completed and signed, with copies kept for the home user pack (home owner), the installer, and sent to MEGAFLO at the address shown on the back page. Building Control Officers may also request a copy. For the purposes of system identifier inclusion of product data within SAP, the product will have an NCM (SAP) identifier label permanently fixed to the MEGAFLO **SHRU** unit, whereby the "model qualifier field" will denote "System A" Installation Configuration. A second NCM (SAP) identifier label is also supplied and must be affixed to a nearby boiler or service cupboard

NOTE:

1. The unit must be installed vertically and must self drain to the trap downstream.
2. Failure to install this unit correctly to System A, B or C configuration diagram will invalidate the guarantee and may have an adverse effect on it's efficiency.
3. Not sending back the completed and signed system design checklist, the installation checklist and certificate of installation to MEGAFLO will invalidate the guarantee.
4. Manufacturer's instructions must NOT be taken in anyway as over-riding statutory obligations

It is required that the MEGAFLO **SHRU** is installed in a location where all parts of the unit are accessible and routine maintenance such as cleaning can be carried out with reasonable ease. Prevent the MEGAFLO **SHRU** from being heated above 25°C by an external source. Also, the MEGAFLO **SHRU** must not be located where ambient temperatures may be above 25°C.

The MEGAFLO **SHRU** has been developed for dwellings with the bathroom on the second or higher floor, so that when taking a shower the wastewater flows under natural conditions through the heat exchanger installed on the floor below the bathroom. Therefore, the unit must be mounted vertically securely onto a flat wall with the brackets supplied.

The preheated water supply inline of the MEGAFLO **SHRU** must be insulated in accordance with the requirements of the 'Building Services Compliance Guide'.

NOTE: Do not insulate the MEGAFLO **SHRU** itself.

It is required that the distance from the shower tray to the MEGAFLO **SHRU** should be kept to within 3 meters to reduce any heat losses and ensure good efficiency is maintained. Minimum clearances of 80mm around the main body should be maintained and adequate clearances must be maintained at the top and bottom to ensure all components are accessible and can be cleaned or replaced, if necessary.

NOTE: It is recommended the MEGAFLO **SHRU** is fitted with a cleaning tee and blanking cap at the top of the unit to enable the waste water section of the unit to be cleaned.



MEGAFLO **SHRU**

Codes of practice / legislation

STANDARDS:

- The MEGAFLO **SHRU** has been tested and approved to the UK water regulations.
- Water Byelaws Scotland.
- Water supply regulations Northern Ireland.
- All current building regulations.

APPROVALS:

- Kiwa.
- GASTEC.



Notes



MEGAFLO, HURRICANE WAY,
NORWICH, NORFOLK, NR6 6EA

MEGAFLO may introduce modifications to their products from time to time. Consequentially the details given in this brochure are subject to alteration without notice.

Contacts

Specification Advice Hotline

T: 01603 420220

F: 01603 420229

E: specifier@heatraesadia.com

www.heatraesadia.com



Please recycle this product once you have finished with it.

PART OF **HEATRAESADIA**

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