

ARIS BiOCYCLE

greywater recycling



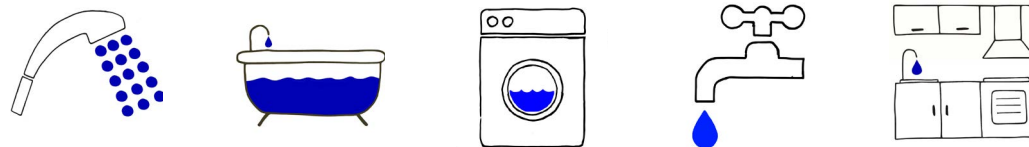
Why greywater recycling?

In Germany, about 55 litres of grey water are produced per person every day - partly cold, partly heated. The grey water comes from various sources of daily consumption and is generally only slightly polluted. Progressive climate change is leading to more uneven rainfalls, which means that the price of water is rising and we have to be more careful with water. A greywater system can make a significant contribution to cost

savings and greater sustainability.

In addition, the sewage network is the biggest heat leak in modern, energy-efficient buildings. However, the heat that escapes there can be fed back into the building via the heat recycling of a greywater system and used further.

Wasserquellen für Grauwasserrecycling



Application areas

Treated greywater can be used for many non-potable water applications in different types of facilities. Among others, residential or hospital facilities, hotels, boarding houses, youth hostels, industrial and commercial buildings, campsites, homes for the elderly, gyms, swimming pools or saunas.

Treating only slightly contaminated water and putting it to a second use saves money. In addition, the integration of heat recycling from the grey water to be treated can make a significant contribution to increasing the economic efficiency of a building.

The treated water can be used for a whole range of applications, e.g.:

- toilets
- washing machines
- car wash

- facade and garden irrigation
- evaporation and adiabatic systems
- infiltration
- Aquaponics and hydroponics
- green roof
- urban gardening/farming

Features

- System incl. maintenance from a single source
- High energy efficiency through combination with heat recycling
- Can be combined with rainwater utilisation
- Minimum maintenance due to fluid bed reactor
- Remote monitoring
- Kitchen waste water can be connected
- Fully automatic operation
- Online remote monitoring via app

System versions

	Processing capacity	Installation area	Electr. connection	Power demand
ARIS BiOCYCLE 1	1 m³/day	2 m²	230 V; 16 A	1 kWh/m³
ARIS BiOCYCLE 2	2 m³/day	4 m²	230 V; 16 A	1 kWh/m³
ARIS BiOCYCLE 5	5 m³/day	10 m²	230 V; 16 A	1 kWh/m³
ARIS BiOCYCLE 10	10 m³/day	20 m²	230 V; 16 A	1 kWh/m³
ARIS BiOCYCLE 15	15 m³/day	30 m²	400 V; 10 A	1 kWh/m³
ARIS BiOCYCLE 20	20 m³/day	40 m²	400 V; 10 A	1 kWh/m³
ARIS BiOCYCLE individual	project specific			

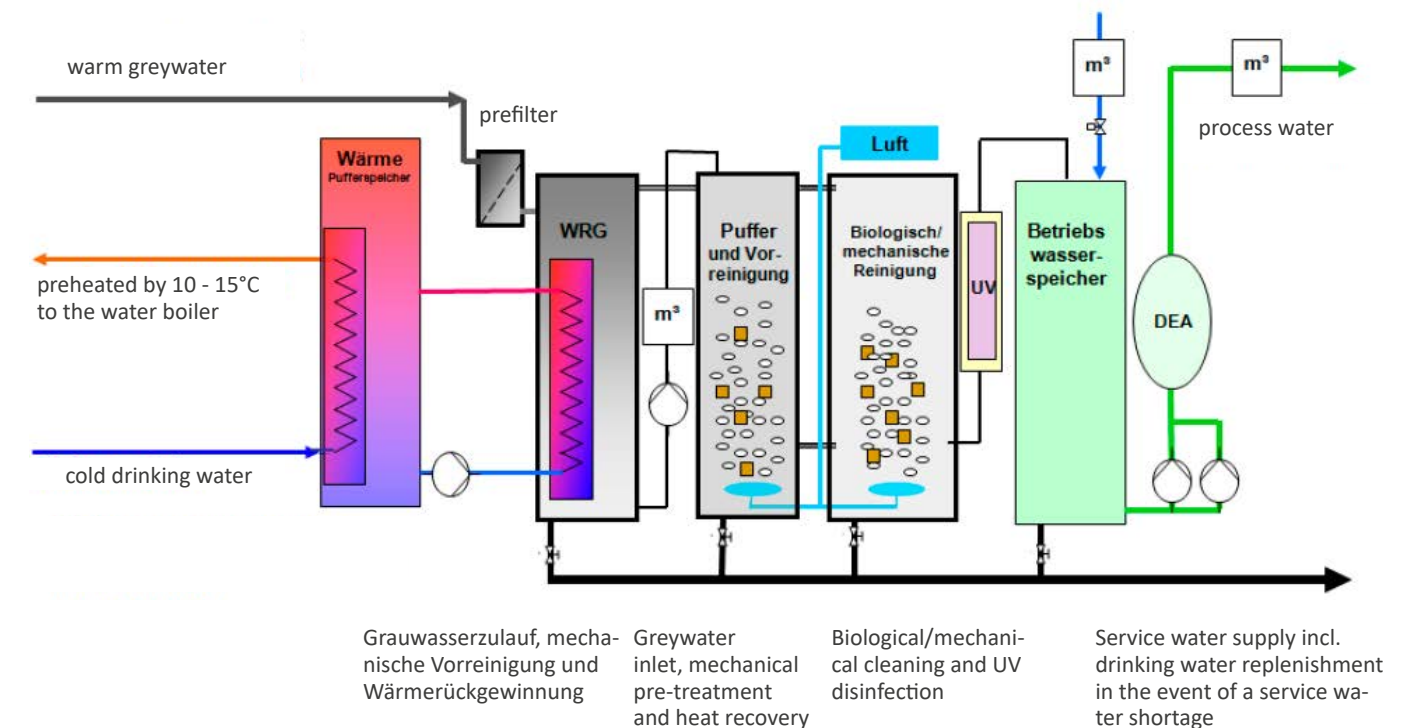
Mode of operation and principle of action

In the inlet, the grey water is pre-cleaned of coarse particles such as textile fibres, hair and the like in a first cleaning stage. This pre-filter is regularly and fully automatically backwashed.

In the second purification stage, the greywater is treated bio-mechanically. Microorganisms break down the dirt particles in the water by bubbling in atmospheric oxygen. This process is repeated in the next purification stage.

In the fourth purification stage, the water is sterilised by means of a UV lamp and stored in the downstream service water storage tank until it is required by the consumers.

If no treated greywater is available when needed, the system automatically switches to drinking water supply. In most cases, greywater recycling offers a very good match between supply and demand, so that no large quantities of water need to be buffered or replenished.



Water quality



Treated grey-water	Greywater before treatment	drinking water
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Treated grey water is clear and odourless. It is visually and sensorially indistinguishable from drinking water according to the German Drinking Water Ordinance (TrinkwV). It poses no hygienic risk to the user and can therefore be used for a number of non-potable water applications.



Documentation video on the Block 6 student residence project in Berlin (in german)

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