ARIS BiOCYCLE

Greywaterrecycling



ARIS REGEN. WASSER. SYSTEME.

Why greywaterrecycling?

In Germany, each person generates approximately 55 liters of greywater per day - some cold, some warmed. Greywater originates from various everyday sources and is generally only lightly contaminated.
Progressive climate change is leading to more uneven rainfall distribution, resulting in rising water prices and the need for more careful water management. A greywater recycling system can make a significant contribution to cost savings and greater sustainability. Additionally, in modern, energy-efficient buildings, the wastewater network is the largest source of heat loss. The heat escaping there can be recovered from the greywater via heat recovery systems and fed back into the building for further use.

Sources

1. Washing machines
2. Kitchen wastewater
3. Showers
4. Hand washing sink

Consumer

1. Washing machines
2. Tree irrigation
3. Greenroof
4. Green facade
5. Toilet flushing



Fields of application

Treated greywater can be used for many non-potable applications across various types of facilities. These include, among others, residential buildings, hospitals, hotels, guesthouses, youth hostels, industrial and commercial facilities, campsites, retirement homes, sports facilities, swimming pools, and sauna operations.
Treating lightly contaminated water and reusing it saves significant money. Furthermore, integrating heat recovery from the greywater to be treated can make a substantial contribution to improving a building's economic efficiency.
The treated water can be used in a wide range of applications, such as:

- Toilets
- Washing machines
- Car washing
- Façade and garden irrigation
- Evaporation in adiabatic systems
- Infiltration
- Aquaponics and hydroponics
- Green roofs
- Urban gardening/farming

Watersources for greywaterrecycling



Water quality

Treated greywater is clear and odorless. Visually and sensorily, it is indistinguishable from drinking water as defined by the Drinking Water Ordinance (TrinkwV). Hygienically, it is safe for users and can therefore be used for numerous non-potable water applications.



Treated greywater | Greywater before treatment | Mains water

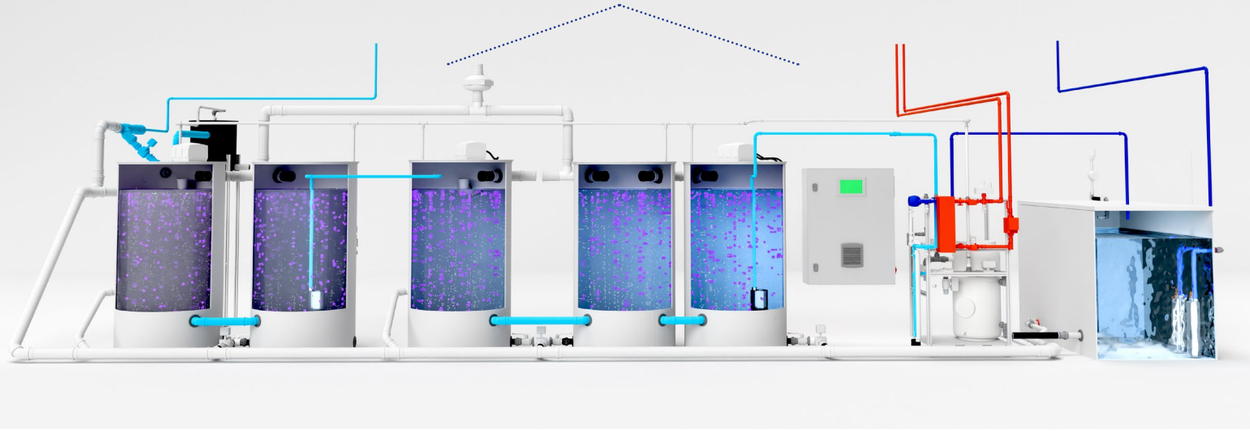
Special Features

- Turnkey system including maintenance
- High energy efficiency through combination with heat recovery and elimination of membrane technology
- Compatible with rainwater harvesting
- Minimal maintenance due to fluidized bed reactor
- Remote monitoring
- Kitchen wastewater can be connected
- Fully automatic operation
- Online remote monitoring via app
- Resistant to foreign substances in greywater



Operating status | Turbidity | Error message | Pressure | Power consumption

Valve control | Waterlevel | Thermal energy | Temperatur



Configurations

	Treatment capacity	Installation area	Power Supply	Energy consuption
ARIS BiOCYCLE 1	1 m³/day	2 m²	230 V; 6 A	2 kWh/m³
ARIS BiOCYCLE 2	2 m³/day	4 m²	230 V; 10 A	1,8kWh/m³
ARIS BiOCYCLE 5	5 m³/day	10 m²	400 V; 6 A	1,6 kWh/m³
ARIS BiOCYCLE 10	10 m³/day	20 m²	400 V; 10 A	1,5 kWh/m³
ARIS BiOCYCLE 15	15 m³/day	30 m²	400 V; 16 A	1,4 kWh/m³
ARIS BiOCYCLE 20	20 m³/day	40 m²	400 V; 20 A	1,4 kWh/m³
ARIS BiOCYCLE customized	customized			

Greywaterrecycling ARIS BiOCYCLE

Greywater intake

Greywater flowing into the building.

Prefilter

At the inlet to the greywater treatment system, the greywater undergoes an initial treatment stage to remove coarse particles such as textile fibres, hair and similar debris. This pre-filter is backwashed regularly and fully automatically.

Heat recovery

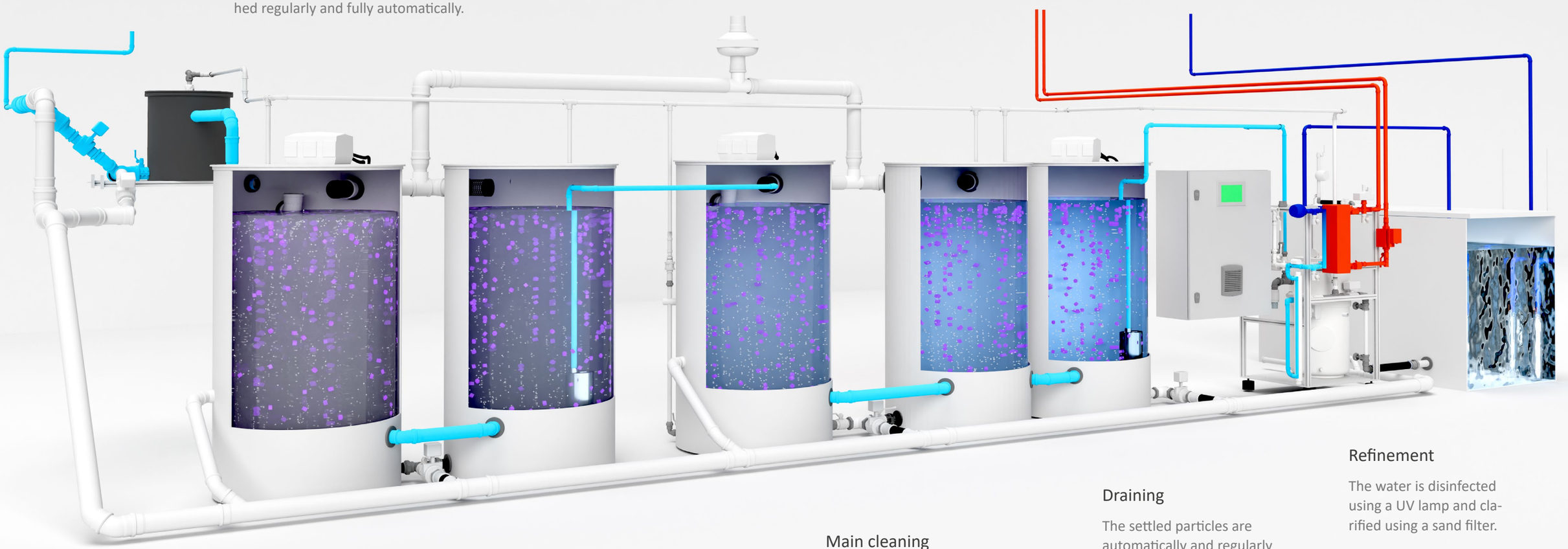
The heat recovery system allows energy to be retained within the building that would otherwise be lost through the waste water pipe. It can, for example, be used to preheat the heating circuit.

Consumers

The treated water is pumped to the users and supplied at the appropriate pressure and flow rate.

Mains water feed

If treated greywater is not available when required, the system automatically switches to the mains water supply.



Pre-cleaning

Greywater is treated using a biomechanical process. As oxygen is introduced into the water, microorganisms break down the dirt particles.

Main cleaning

Repeat the process from the pre-cleaning stage.

Draining

The settled particles are automatically and regularly flushed out.

Refinement

The water is disinfected using a UV lamp and clarified using a sand filter.

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