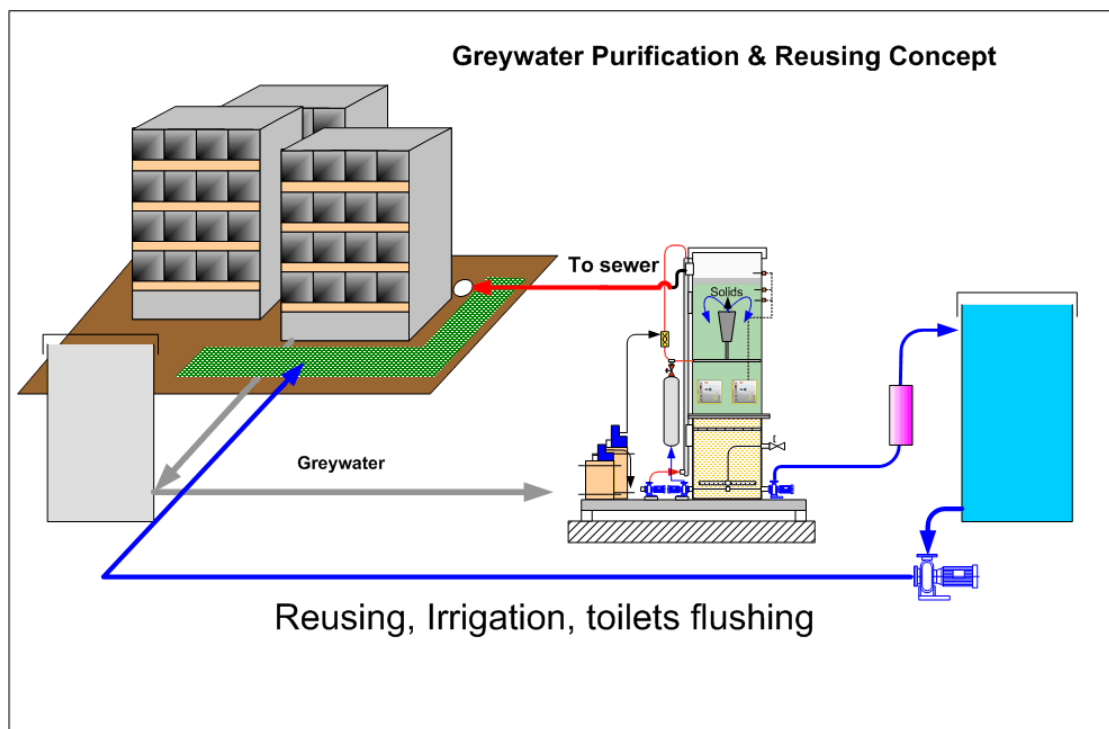


SEG

Commercial GWTP

Commercial Greywater Treatment Plant

5 m³ / hr



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Overview:

What is Greywater?

Any water that has been used in the home, except water from toilets, is called grey water. Dish, shower, sink, and laundry water comprise 50-80% of residential "waste" water. This may be reused for other purposes, especially landscape irrigation and toilets flushing.

Why use grey water?

It's a waste to irrigate with great quantities of drinking water when plants thrive on used water containing small bits of compost. Unlike a lot of ecological stopgap measures, grey water reuse is a part of the fundamental solution to many ecological problems and will probably remain essentially unchanged in the distant future. The benefits of grey water recycling include:

- Lower fresh water use
- Less strain on failing septic tank or treatment plant
- Grey water treatment in topsoil is highly effective
- Ability to build in areas unsuitable for conventional treatment
- Less energy and chemical use
- Groundwater recharge
- Plant growth
- Reclamation of otherwise wasted nutrients

Process:

Greywaters, excluding kitchens and toilets, are diverted into a pumping station, from where the GW is pumped for a balancing storage.

The GWTP (Greywater Treatment Plant) receive the GW from this tank and treats it to the desired level.

The treated water, then, can be readily used or stored.

The treatment is capable to reduce the BOD <10 mg/l, and TSS < 5 mg/l.

Chlorination, UV or both are employed to disinfect the effluent.

The process is a based upon a unique Chemical/Physical GreenFlaot floatation system., without moving parts.

The floatation removes almost al particulate matters, enhanced by chemical coagulation to break emulsions and colloids.

A fine pressure sand filter is supplying to provide the polishing purification step, followed by chlorination and UF disinfection.

Both process are executed automatically without the need for another storage between the GreenFlaot and the Pressure sand Filter, this is due the sophisticated system control executed by a small on board PLC.

The solids and floatable matters are removed from the cell top periodically by cell flooding which is also controlled by the PLC .

The system is very simple but very powerful, completely automatic and very reliable, thanks the unique control algorithm.

Through the control interface it is straightforward to tune the system at any water condition and to make “on line” changes.

Future capacity increase is very simple and required very small changes, usually only scale up.

Disinfection is provided by close loop Hypochlorite solution dosing and controlling., UV disinfection is also used as a back up.

Specifications:

Capacity, nominal : 60 m³ / d

Flow rate : 5 m³ / d max.

Power consumption: approx. 2 kW single or three phases all options

Air consumption : 6 liters/min STP

Air Pressure : 6 bars

Chemicals:

consumption : approx: 20 – 50 ppm PAC and 2-5 ppm flocculent
approx. 0.035 USD/ m³

Quality:

COD inlet : 100 - 200 ppm

BOD inlet : 30 - 60 mg/l

SS inlet : 50 - 200 mg/l

Rate of purification after the sand filter :

BOD < 10 ppm

SS < 5 ppm

Dimensions:

About 2x2 m skid and 3.5 m height

Scope of supply, major items:

- Hair removal strainer
- GreenFloat filter cell – dia.0.8 m X 4 m, FRP
- Coagulation/Flocculation tube – D= 0.4 X4 m , galvanized steel or FRP
- Mounting skid
- Pressure/aeration tank – 80 liters, galvanized steel or FRP
- Supply pump centrifugal 5 cum/hr at 0.5 bar
- Mechanical turbine flow meter for flow control
- High pressure recycling pump – 1.5 cum/ hr at 5 bar
- Expansion valve – diaphragm – 1 “
- 2 electrical diaphragm Dosing pumps
- 5 cum/hr sand filter with 2 X three ways valves
- High flow back wash pump – 50 cum/hr at 2 bars
- Control panel – mini PLC included
- Pneumatic controls
- Piping, valves, fittings and cables, level sensors, etc.
- Manuals

